

NZGROWER[®]

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HORTICULTURE NEW ZEALAND

KEEPING AHEAD OF THE GAME

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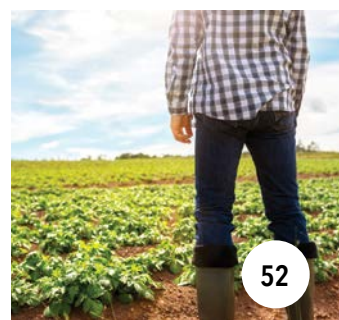
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Nigel Rowe-Lucas, Senior Agronomist at Kraft Heinz, inspecting pea crop during harvest close to Kirwee township. See page 7. Photo by Tony Benny.

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2024 HERE WE GO!



Barry O'Neil : HortNZ president

A belated happy New Year to all, and my New Year wish is that 2024 will be a great year for growing! Lots of good things are lining up, including a newish government that is keen to do stuff, an El Niño weather system that is both hot and hopefully not too wet, and fresh fruit and veggies are still very much in demand!

Horticulture New Zealand has a big year ahead. Every six years we have to under law renew our Commodity Levy Order, so we are about to begin the process of engaging and discussing with our members a new Commodity Levy, as are a number of product groups.

“

HortNZ was created so that all growers can have an organisation with critical mass to give effect to change at central and government level

Commodity Levies are the legal basis that organisations like HortNZ, many product groups, DairyNZ, Beef + Lamb New Zealand, NZ Winegrowers all operate on. They give us the legal basis to operate within specific parameters, as well as enabling us to collect a specific levy from growers.

Our current Commodity Levy which came into effect in 2019 enables us to do the following:

- research and development
- market and trade research, development, and promotion
- industry promotion
- development and implementation of quality assurance
- education and training, including attracting people to the industry, and developing and retaining them
- information and communication, including advocating for and representing growers
- protection and improvement of the health of plants, including biosecurity activities
- day-to-day administration of HortNZ, including central grower registration systems.

Very wide based so we need to prioritise, but HortNZ is not allowed to spend levy money on commercial or trading activities, as we are an industry good body and must carry out activities that support and benefit the wider industry.

While the above list of activities was current and relevant in 2019, much water has passed under the bridge since then and both HortNZ and product groups have evolved in their roles and their primary areas of focus. So, part of the conversation we will be having is what are the areas growers are wanting HortNZ to focus on for the next six years? And product groups will be having the same discussion as to what areas they also need to be focusing on.

Good engagement and discussions I hope will occur in our meetings to especially understand what value HortNZ adds, but also on the question of whether there is too much duplication in horticulture, with 22 product groups as well as HortNZ operating in what at times seems to be similar space?

I believe the value HortNZ adds is very significant, and ultimately results in central and regional government having policy and standards settings that support growing. We don't lobby and focus on results for one type of growing or product, that's what product groups do. Our focus is on the wider horticulture, covering all products and all types of growing, to give growers either now or into the future, choice about what they will do with their land.

HortNZ was created so that all growers can have an organisation with critical mass to give effect to change at central and government level, to align efforts and avoid unnecessary duplication. HortNZ formed out of the merger of the NZ Vegetable and Potato Growers' Federation (Vegfed) and the NZ Fruitgrowers' Federation (NZFF) in 2005, and to me it seems growers have even more need for HortNZ today than in 2005.

We engage on really big issues for the good of horticulture and growers - such as climate change mitigation and adaptation, sensible environmental settings for freshwater and biodiversity, biosecurity settings to protect our sector, social licence to grow, which is especially important as urban centres expand into our growing areas.

Most importantly we try and focus on the future big strategic issues for success in horticulture, to which HortNZ has aligned the Aotearoa Horticulture Action Plan – such as labour, water storage, science that delivers practical solutions for us, and so on.

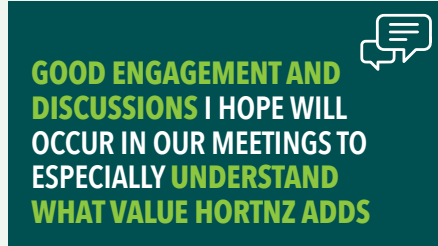
Our goal is to double the farmgate value of horticultural production from \$6 to \$12 billion by 2035, in a way that improves prosperity and protects our environment. To me this seems very achievable, as horticulture has already overtaken forestry in exports, and will in the next decade I am sure, overtake beef and lamb.

“
We engage on really big issues for the good of horticulture and growers

There is an opportunity in the way we work in collaboration with product groups, and I am convinced we can do better. It is great to see initiatives underway exploring collaboration within both vegetable and fruit groups, looking seriously at how they themselves can better align, as well as how we can all better coordinate together.

Government is very clear that it does not want to be dealing with multiple small individually focused groups. Rather like they have in the dairy or meat sectors, they want a central horticulture organisation that they can engage with, and HortNZ is that central body that develops the relationships with Ministers and policy leaders, and an understanding of the central and regional pan-sector policy issues.

The high-level skill sets required for policy analysis and advocacy are unique, and through a consistent focus on both recruiting and retaining people highly skilled in this area, HortNZ has a reputation that attracts fantastic staff that are committed to delivering for growers.



That of course doesn't stop both product groups and industry groups engaging with government directly as always has been the case, whether that be Fonterra, Zespri, T&G, NZ Kiwifruit Growers, Vegetables NZ or other groups. But when it comes to national and regional policy settings there is real benefit in having a coordinated and aligned position to benefit all growers.

HortNZ also works closely with the other primary sector leaders and groups to get both understanding and hopefully alignment of our policy needs. We are not an island and want to work positively and proactively with the wider primary sector. As chair I sit on the Food and Fibre Leadership Forum with the other food and fibre industry good chairs in order to progress this.

We by no means are suggesting the status quo is the only way, and our new Commodity Levy that we hope will be strongly supported by growers will serve as an indication of what specific areas of focus our members wish us to be focusing on. It is also an indication of our desire to work proactively and constructively with product groups and industry to find better ways of operating, to deliver even greater value for our grower members.

We look forward to coming to a place near you shortly to have the conversations and discussions about what we are doing, what is going well, and what can be improved and how. I am really looking forward to the discussions, and while I am wanting to get to as many of our meetings as possible, I won't be able to attend all of them, so Bernadine our vice chair along with our board directors will be present also.

Kia Kaha ●

NZGROWER

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POSITIVE OUTLOOK FOR HORTICULTURE



Nadine Tunley : HortNZ chief executive

On behalf of Horticulture New Zealand, we hope all growers and their families managed to take some time out of what is a busy time for many of you, and relax a little over the festive period.

Like you, we're pleased to see the back of 2023, which was an extremely challenging year for the horticulture sector.

It is now a year since Cyclone Gabrielle devastated businesses and communities in the Hawke's Bay, Tairāwhiti Gisborne, Northland, Bay of Plenty, Wairarapa and northern Manawatū.

At HortNZ, our thoughts are with those still working to recover from this extreme weather event. The rebuild and renewal process will take a generation. Growing areas and infrastructure are in a serious state and significant investment is required so these areas can once again thrive.

What will be vital is a collaborative and constructive relationship with the new government. We were pleased the government's 100-Day Plan signalled a real commitment to supporting the recovery. The industry and communities in these regions have displayed remarkable resilience in recovering from the devastating impacts of Gabrielle and other extreme storms, yet additional assistance is required.

Stakeholders across the sectors continue to work together to meet both the immediate necessities and ensure the prolonged recovery of the impacted areas. Given the rising frequency and severity of adverse weather events, taking proactive measures to mitigate and minimise damage is vital.

As the horticulture sector anticipates another dynamic year in 2024, we hold a positive outlook for the future of our industry. This optimism is grounded in recent government announcements, particularly those highlighting resilient infrastructure and favourable employment policies, essential for the sector to achieve our ambitious growth targets.

The creation of a National Infrastructure Agency and the formulation of a new Government Policy Statement on Roads of National Significance are particularly encouraging. These initiatives will play a pivotal role in boosting production and streamlining the supply chain for locally grown fruit and vegetables.

Currently valued at \$6 billion annually, the sector aims to double this figure by 2035. We commend the government's commitment to doubling renewable energy production, recognising its crucial role in supporting our sector's expansion needs.

Aligning the country's infrastructure policies with the specific needs of the horticulture sector is imperative. HortNZ advocates for prioritising highly productive land for primary production and policies facilitating the construction of essential facilities, including packhouses, glasshouses, seasonal worker accommodation and covered crop protection.

“
Aligning the country's infrastructure policies with the specific needs of the horticulture sector is imperative

Moreover, policies addressing water storage expansion and streamlined water consent processes can provide growers with the certainty needed for investment and increased production while maintaining environmental sustainability.


The government has already repealed the Natural and Built Environment Bill and the Spatial Planning Act. HortNZ is focused on ensuring enabling the growing of fruit and vegetables remains a priority in the proposed resource management and freshwater reforms.

The recent Court of Appeal decision quashing the specified vegetable growing areas in Horowhenua and Pukekohe highlights the risk of truncated consultation. We look forward to working alongside the government, iwi and community to develop enduring environmental law and policy that recognises the value of horticulture and provides clear, pragmatic and fair rules to maintain and improve environmental quality.

The government remains committed to the roll-out of Freshwater Farm Plans. HortNZ will continue to advocate for a clear equivalence process, so industry assurance programmes such as GAP (Good Agricultural Practice) can support growers to demonstrate they are meeting regulatory and market requirements in an efficient and integrated way.

The recent changes to employment policies by the coalition government are also a positive development, bringing relief to the horticulture industry. The decision to halt the Income Insurance Scheme, repeal the Fair Pay Agreement legislation, and restore 90-day trial periods is a step in the right direction, alleviating pressures faced by horticulture businesses.

“
**... we hold a positive outlook
 for the future of our industry**



Looking forward, there is an overdue need for sustainable policies surrounding the Recognised Seasonal Employer (RSE) scheme and immigration processes, ensuring the sector remains an attractive destination for workers contributing to the New Zealand horticulture industry.

The sector’s Aotearoa Horticulture Action Plan will serve as a blueprint to attract, retain and grow a diverse workforce, ensuring a responsible and ethical industry for future generations.

Meanwhile, we are looking forward to meeting growers ahead of our upcoming levy referendum. In March 2025, HortNZ’s Commodity Levy Order, which funds the work we do, will expire. We will be seeking grower support for the continued funding of the organisation.

Without grower support in this referendum, HortNZ will close, so it’s crucial that you engage in the process and have your say.

Your investment in HortNZ enables us to support you in making more informed decisions, providing tools and services to enhance your productivity and profitability, and ensure your voice is heard. We also advocate on your behalf for sound and sensible policy settings.

The horticulture sector is certainly stronger by working together.

Collective investment by growers provides the size and scale needed to achieve things that no individual grower can achieve alone. Collaboration with government and industry partners enables the sector to expand traditional markets and explore new opportunities, fostering a resilient horticulture sector.

No matter the size of your business, HortNZ is your united voice on issues affecting all growers at both local and central government level in areas such as the environment, compliance, access to land, water and people.

HortNZ advocates relentlessly for regulatory settings to provide an environment where growers can thrive whilst providing a reliable and resilient supply of fresh vegetables and fruit for New Zealand and our international markets.

As the enabler of initiatives like A Lighter Touch, HortNZ advocates for growers’ needs and equips them with knowledge and the tools to address the challenge of meeting consumer demands for safe food that is produced under sustainable pest management programmes, while also being gentle on the environment.

With growers continuing to fund HortNZ, it will enable us to continue pushing the case of growers with government in key areas including water storage, ensuring the reliable supply of healthy locally grown fruit and vegetables, streamlining assurance processes, employment flexibility, removing current legislative barriers to businesses and providing certainty for Pacific workers and employers.

Look out for more information about the levy referendum and grower meetings in the next few weeks.

With 2023 behind us, we look forward to working with growers, product groups, partners and government to develop policy and practices that create an enduring environment where all growers thrive, and New Zealand prospers. ●



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22 SO SWEET SOUTHLAND
PRODUCTION





HEINZ WATTIE'S RISES TO SUSTAINABILITY CHALLENGES

Tony Benny



Approximately two tonnes of freshly harvested peas being unloaded into a waiting truck for delivery to the factory for processing and freezing within a target of five hours

With multiple challenges facing food producers, New Zealand's longest established process vegetable producer Heinz Wattie's is investigating new ways to satisfy market expectations and enhance its valuable relationship with growers.

Heinz Wattie's, now part of the multinational Kraft Heinz group, has been processing vegetables, including peas, dwarf beans, broad beans, carrots and potatoes in Canterbury for more than 50 years and today more than 200 growers within an 85km radius of the factory in Christchurch are suppliers.

"It's very much a partnership between ourselves and growers because we aim to develop a long-term relationship with growers. We feel we have a good reputation in the industry because we work side-by-side with growers with the goal to achieve a high returning and high quality crop that also meets our requirements," says senior agronomist Nigel Rowe-Lucas.

But meeting both grower and market requirements is becoming more challenging thanks to climate change, increasing compliance requirements and evolving market demands.

"You've always had those challenges but their significance or impact has changed," says Heinz Wattie's South Island agricultural manager Greg Noller. "Our challenge is to use science and knowledge to understand those challenges perhaps better than our forefathers, to be a bit smarter with what we've got."

“ Heinz Wattie's is also looking for ways to reduce their growers' contribution to greenhouse gases

One major looming problem revolves around the crop protection products used in horticulture, with some being phased out and new products not being readily available. That, together with the fact that increasing numbers of consumers are concerned about chemical residues in their food, means Heinz Wattie's and other producers need to find a solution.

The company is working closely with the levy organisation Process Vegetables NZ and Plant & Food Research to find alternative, naturally occurring products to replace synthetic chemicals [part of the A Lighter Touch programme]. While there are some promising products, there's no quick fix, says Greg.



Dwarf green bean crop located close to Prebbleton

The biological alternatives being studied include both live and dead organisms, some of which are naturally occurring soil fungi and bacteria, and others which stimulate an immune response in the plant.

“Biologicals are not as clear cut as synthetics, we’re not going to get the same level of efficacy from one product, so we’re going to have to look at combinations - we might use A, B and D under these conditions, in other conditions it might be E, F and G.”

“

Climate change is also high on Heinz Wattie’s list of new challenges

“We need to understand under what conditions and at what stage the biological is most effective on the disease so we can appropriately target applications.”

Among the issues they hope to address with biological solutions is the weak root system of peas, one of Heinz Wattie’s major Canterbury crops. When there is too much rain and the soil is soaked, creating anaerobic conditions for two or three days, the root systems can be damaged, pathogens can invade and while the tops look fine the root system is weakened.

“As soon as it goes into load to start setting peas, the pressure comes on and it struggles. Either its yield is reduced or you see a change in the physiology of the seed. That can affect the flavour and texture of the pea - which may result in a less pleasant eating pea.” Greg says.

“That’s why we’re doing work as an industry to understand how we can improve the root system either through breeding - although with crops like peas that’s a long process - or we start looking at some of these biological products targeting the root system,” adds Nigel.

“We’ve identified some species that potentially will have an effect on the pathogens we’re trying to combat, but also provide yield improvement.”

“We’re working hard at this. We’re reaching out to companies overseas who are learning about new chemistries or new products and saying, ‘Can we trial those?’, and when they learn what we’re doing, they’re really responsive to it.

“The good news is a lot of the major agrichemical companies now are very much focused on these particular products.” They have the discipline and resources to work to understand how these products interact with the disease and the plant.

“

“WE’RE WORKING HARD AT THIS. WE’RE REACHING OUT TO COMPANIES OVERSEAS WHO ARE LEARNING ABOUT NEW CHEMISTRIES OR NEW PRODUCTS...”



**HEINZ WATTIE’S SENIOR AGRONOMIST
NIGEL ROWE-LUCAS**

Climate change is also high on Heinz Wattie’s list of new challenges, and the company has 30 years of Canterbury weather data that reveals a slow increase in winter nighttime temperatures. Nigel gives 15 July 2023 as an example of that. “Historically the long-term daily average has been around two degrees as a daily minimum temperature, but over time that’s increasing and it’s now more like 3.5 degrees, and the day after that is similar.”

While that could mean Canterbury may in future be able to grow crops that require those higher temperatures, the downside is the weather extremes that come with climate change, as well as an increase in the number of pests and diseases growers have to cope with.

Heinz Wattie’s is also looking for ways to reduce their growers’ contribution to greenhouse gases, particularly from artificial nitrogen, looking to fully understand and utilise the nitrogen (N) captured by peas and dwarf beans – both legumes. For the past two years they have been measuring nitrogen in the soil before and after cropping, as well as in the plant residue.

“We know peas are beneficial for the rotation and now we’re getting the science behind it. This is how much N is present in the plant residue, that’s going to be released back slowly if you decide to incorporate it back into the



CUCUMBER FILEAS F1

High yielding and high-quality cucumber variety for the cool season harvest period, picking from approx. April through to November. Strong, open, healthy plant shown to withstand disease pressure vs existing standards. Produces high numbers of A-grade dark green fruit with attractive ribbing.
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HR: Pe1-7,9-19, Sv



CAULIFLOWER LEOCEN F1

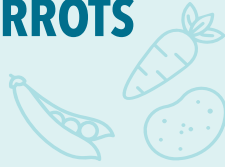
Has fast become the market standard for winter cauliflower, maturing approx. 120-130 days from transplant in the upper-North and approx. 130-140 days in the lower-North and South Island. Tall upright plant with dark green, healthy foliage. Elevated head set for easy harvest and added disease tolerance. Very good head wrap with a premium curd being smooth, white, dense, and uniform.



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Newly emerged baby carrot crop located close to Southbridge

soil, and this much N will be available for the following, say, cereal crop," says Nigel.

"You're talking for example 175kg to 250kg of N/ha in the plant residue, that's a significant number for a following crop."

“We’re trying really hard to keep ahead of the game, and that’s been the nature of New Zealand growers I think from the word go

But while Heinz Wattie’s is working hard to address environmental issues and help their growers to run sustainable operations, Greg is concerned about the effect of increasing compliance costs.

"What we don't want to see is it becoming so arduous for our growers that they say it's not worthwhile, so that they are unable to produce the crops that we know are the best in the world and therefore push those products to be grown in less ideal locations.

"So we've really got to defend New Zealand for the sake of the world," Greg says. "We're trying really hard to keep ahead of the game, and that's been the nature of New Zealand growers I think from the word go."

Kraft Heinz is the fifth largest global food company and Wattie's is one of the business's major brands. They are committed to meeting consumer expectations and environmental considerations as well as supporting their growers.

"There is a lot of focus globally by every multinational food company to produce food in a sustainable way with a minimum impact on the environment. What we need to ensure is that what is being said is actually being achieved in the field and is economically achievable for the grower," says Greg.

"Our attitude is we need to be doing the best job we can on this planet of ours so we can continue to survive and produce good food. We can't just all have little suburban plots, you can't feed the world that way, you've got to grow big areas, but also maintain and/or improve soil and plant health and the environment." ●

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REMEMBERING A ROCKY YET RICH HERITAGE

The Dominion Federation of New Zealand Chinese Commercial Growers recently marked 80 years. HELENA O'NEILL takes a brief look into the association's history, a journey often filled with racism and hardship.

Howe Young is a market gardener in Pukekohe and an advisor to the Dominion Federation of New Zealand Chinese Commercial Growers. He says the association did more than represent Chinese growers, working to improve the wider horticulture industry.

"The federation did a lot of negotiating with industry leaders like Turners & Growers, helped smooth things out for growers. That's what other growers, apart from the Chinese, probably didn't realise that we were doing. All of that was on our own time."

Chinese vegetable growers and their role in New Zealand history gained attention in 1943 when Labour Prime Minister Peter Fraser asked Chinese farmers to supply vegetables for allied troops in the Pacific as part of the war effort.

“

The federation did a lot of negotiating with industry leaders like Turners & Growers



"The government asked us to form a federation so they could negotiate the purchase of vegetables for the war effort. My father went around the whole country and asked all the districts to form associations," Howe explains.

The New Zealand Chinese Growers' Association (later known as the Dominion Federation of New Zealand Chinese Commercial Growers) was formed as a central body to coordinate this huge cooperative and liaise with officials. Its history is told in books *Success through Adversity* by historian Nigel Murphy, and *Sons of Soil* by Lily Lee and Ruth Lam.

To help with communication across the association, a newsletter was distributed among the hundreds of farms and market gardens. This publication, the *New Zealand Chinese Growers Monthly Journal*, soon became the voice of the Chinese community nationwide. It provided Chinese growers with information on farming, modern methods of cultivation and the use of machinery.



Raymond Lum, Allen Lim, Norman and Kerry Young (From left to right)

The first edition of *NZGrower* was in 1945, published by the Dominion Council of the Commercial Gardeners' Federation and the Chinese Growers' Federation. It was originally called *The NZ Commercial Gardeners' Journal*.

In his 2013 book *Growing Together: History of the New Zealand Vegetable and Potato Growers Federation*, historian Nigel Murphy says that "the addition of the subtitle 'official organ of the Chinese Growers' Federation' reflected the then harmonious relationship between the council and the Chinese Federation. In recognition of this relationship, the early issues of the journal published a page in the Chinese language for Chinese growers."

However, that "discontinued as relations between the council and the Chinese gradually broke down," Nigel writes.

All growers had to pay an acreage registration to the Dominion Council. That Dominion Growers levy was credited back to the federation. The levy payment lapsed in 1949 and a little time later the Vegetable Federation (VegFed) was established.

"They had an acreage levy during the war ... all that went back into funding of the federations. In the 1950s they reneged on paying us," Howe says.

The next few decades saw many disputes and conflicts between VegFed and the Chinese association. One of the major issues was around the Vegetables Levy Act of 1957.

THE DOMINION FEDERATION OF NEW ZEALAND CHINESE COMMERCIAL GROWERS ANNUAL DINNER

“They virtually excluded the Chinese from that. We were the ones who were paying most of the levy: kumara wasn’t involved, swedes weren’t because they were a livestock thing, pumpkin, onion, potatoes ... [while] a lot of vegetables that the Chinese were growing were levied.”

Sons of the Soil: Chinese Market Gardeners in New Zealand was written by Lily Lee and Ruth Lam and published in 2012. It incorporates more than 100 interviews with Chinese fruit and vegetable growers from across the country and features both historic and contemporary photos.

The book also features Howe’s father Young Yuk Chee (Young Chee). He arrived in Ohakune in 1940, and during the war he supplied vegetables for dehydration which were sent to American forces in the Pacific. He moved to Pukekohe in 1950.

By the mid-twentieth century Pukekohe and Māngere, along with Ohakune and Ōtaki in the North Island, Ōamaru, the Taieri Plains and Balcutha in the South Island had flourishing market gardens. The 30 years following World War II represented the boom years of Chinese market gardening, however this changed significantly in the 1990s. The decline of auctions meant market gardeners had to either sell directly to supermarkets or through an agent.

North Otago was once a key area for horticulture with a strong community of Chinese growers, particularly in the wider Totara area south of Ōamaru. After several years of growing vegetables, the late Reggie Joe and his wife Suzie opened Joe’s Vegie Stall in 1973. The stall remains a key fixture on State Highway 1 at Alma, about 3km south of Ōamaru, and is still run by members of the Joe family.

“
**One of the major issues was around
the Vegetables Levy Act of 1957**

Jim (Jimmy) Gin is another of the few Chinese market gardeners left in North Otago and is the only one of three Gin brothers left growing commercial vegetables in the area after the retirement of his brothers Gordon and Eric. While no growers were keen to go on the record, *NZGrower* understands that amongst the handful of smaller Chinese growers in Ōamaru, Jonathan Young is thought to be the youngest (in his mid-30s), and has recently stepped back from his accounting job to carry on the family operation of Ian and Wendy Young.

This change is also reflected in the membership of the Dominion Federation of New Zealand Chinese Commercial Growers, with Howe saying they’re down to between 50 and 60 families of growers.

“It’s become more of a social entity as membership ages ... but some of our younger generations are members. There’s probably only a handful of families who have young ones coming on as members,” Howe says.



Warren Young, Michael Ying, Garry Yee, Scott Fong, Daniel Sutton (From left to right)



Dennis Fong (Left), Howe Young (Middle), Ginny Sue (Right) at annual dinner



Bobby Lowe, Ken Gee, Jackie Young (From left to right)



Howe Young (left) and Dennis Fong look at old photos of Dominion Federation of New Zealand Chinese Commercial Growers members. Photo by Helena O'Neill

Allen Lim, Vegetables NZ deputy chair, says the Dominion Federation of New Zealand Chinese Commercial Growers has supported the development of commercial vegetable growing in this country for more than 100 years.

"They don't just support Chinese growers, they support all growers. That's why they are such a fantastic group.

"More recently, they have focused on helping to hold the industry together through activities such as dinners and overseas trips."

Allen says the Vegetables NZ board is currently benefiting from having a young Chinese grower as a member.

"Bobby Lowe is our current associate director. He's able to offer us many unique insights as we look at how we can better support vegetable growers in the future."

Bobby also serves as co-treasurer and secretary for the Dominion Federation of NZ Chinese Commercial Growers which held its 81st conference dinner in Auckland in September. ●



Further reading:

- *Growing Together: History of the New Zealand Vegetable and Potato Growers Federation*, Nigel Murphy, Horticulture New Zealand, 2013.
- *Sons of the Soil: Chinese Market Gardeners in New Zealand*, Lily Lee and Ruth Lam, Dominion Federation of NZ Chinese Commercial Growers, 2012.
- *Success through Adversity*, Nigel Murphy Dominion Federation of NZ Chinese Commercial Growers, 2012.



DESLOE PRODUCE PREPARING THE NEXT GENERATION

Dennis Fong has been growing vegetables in Pukekohe since he was 17 years old. Now heading towards retirement, his sons Scott and Myles look set to take over the business while Dennis spends more time working for the Dominion Federation of New Zealand Chinese Commercial Growers.

Desloe Produce really is a family business, with even the name reinforcing the importance of family.

"We put my name, Dennis, with my wife's name, Loedar, to make Desloe Produce," he explains.

Desloe Produce operates on about 160 hectares in total, with the main property at Puni (on the outskirts of Pukekohe) with some land in nearby North Waikato. About half of the land is dedicated to their main crop, onions, with the rest planted in cabbage, cauliflower, broccoli, snow peas and pumpkin. They also grow a small amount of gai lan (Chinese broccoli) in winter.

As part of his role as chief executive officer of the Dominion Federation of New Zealand Chinese Commercial Growers, Dennis advocates for best-growing practices, is involved in networking, and encourages growers to work together to secure better prices for services and supplies.

"We work with Fruitfed, and we try to get as many Chinese and Asian growers buying through them to increase the percentage of rebate that we get back from them. They're like our co-op partners."

For the past two years, Desloe Produce has also been involved in the A Lighter Touch programme as a trial farm. Dennis' son Scott coordinates Desloe's field trials and is also a representative of the Pukekohe Vegetable Growers Association.

"Scott's very involved, and I'm very proud and happy to see him take such an interest in horticulture."

Last year Dennis' younger son Myles competed in the Pukekohe Young Growers competition before heading off on his OE (overseas experience) in Europe. There he was teaching autistic students horticulture and other subjects at a private school. Dennis says he's already back at work for Desloe Produce, but hopes to return overseas to finish the time on his working visa.



Foodstuffs North Island head of produce and butchery, Brigit Corson, reports a 19 percent increase in customers buying Asian greens

ASIAN GREENS BOOM IN THE YEAR OF THE DRAGON

For decades New Zealand's Chinese growers have not only produced staple vegetable crops for New Zealanders, but also introduced varieties of Asian vegetables – a market that is growing quickly, according to Foodstuffs North Island head of produce and butchery, Brigit Corson.

“Asian greens continue to grow in popularity with our customers and we’ve seen a 19 percent increase in customers regularly buying Asian greens over the last 12 months. Shanghai bok choy is the most popular produce with great supply year-round, which helps drive sales.”

The lunar New Year – which falls on 10 February this year – is often seen as an export opportunity for produce such as cherries, but also sees a significant uptick in domestic sales. Asian greens fly off the shelves during the lunar New Year and Moon festivals, Brigit says.

“The biggest growth is in the Auckland region, reflecting the concentration of our Asian population, and most popular across our Pak’nSave stores in South Auckland.”



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GLOBAL RESEARCH OPPORTUNITIES ARE THERE FOR THE TAKING

Peter Barrowclough



Former EU Ambassador Nina Obermaier (centre) visited Lincoln Agritech with Selwyn MP Nicola Grigg. Lincoln Agritech has recently joined a Horizon Europe research project



Peter Barrowclough has stepped down after 14.5 years as CEO of Lincoln Agritech

Just after stepping down as chief executive of Lincoln Agritech, Peter Barrowclough argues for a greater role in international research collaboration. This year Lincoln Agritech joined a Horizon Europe project as a partner, linking New Zealand research on digital monitoring systems for diseases and pests with one of the largest research programmes in the world.

Aotearoa New Zealand's primary sector is built on a history of world-beating innovation, born of necessity, and taken to the world.

In the early 1900s, Wairarapa dairy farmer Norman Daysh invented the first commercial vacuum-pump milking machine, picked up by DeLaval, and launched to the world in 1917. In the 1930s Bill Gallagher invented the electric fence. Gallagher Group now exports to more than 160 countries.

The list goes on - aerial top dressing, the world's first farm bike, kiwifruit as a commercial crop, the rapid development of Zespri SunGold in response to the arrival of Psa. In the past 150 years, our country has punched above its

weight in creating world-class solutions to agricultural and horticultural problems.

So what of a future that is hugely more complex - but also offers vast opportunity? Is Aotearoa New Zealand's research and innovation ecosystem fit for purpose in a globalised world?

After more than 14 years leading Lincoln Agritech - one of the country's most innovative primary sector research and development companies - I'm optimistic about the potential.

Why? Just look at the industry, its capabilities, its successes, and the opportunities to grow from here.

At the core of our research industry are the Crown Research Institutes - CRIs - established in 1992 to research new science, knowledge, products, and services. Key to their success is a mandate for applied research, often market-driven and customer-led, to solve identified problems.

Several focus on our primary industries. Plant & Food Research, AgResearch, Manaaki Whenua - Landcare Research, and Scion have all, for 31 years increased the sum of our sector's knowledge and solved many of its problems. For example, endophyte strains identified and

commercialised by AgResearch are now core to pastoral farming success and in 2017 were estimated to contribute \$200 million a year to the economy. And the \$2.6 billion kiwifruit industry rides high on the back of gold kiwifruit bred by Plant & Food Research.

The CRIs are joined by universities in world-beating research, with Lincoln and Massey Universities standing out in the primary sector. In 2013 Biolumic was established based on intellectual property developed at Massey University. The company delivers ultraviolet light to seeds and seedlings to trigger increased plant growth and yield. More recently, for the dairy sector Ravensdown commercialised Lincoln University research that cuts methane emissions from effluent ponds, marketing the technology as EcoPond™.

Then come the independent research organisations such as Lincoln Agritech, Cawthron Institute, Aqualinc Research and Bragato Research Institute. Independent Research Organisations collectively are equivalent to about two CRIs and are an integral part of the science ecosystem.

One reason for our research success is the connectivity between research organisations and industry. For starters, many within our industry have come from a horticultural or agricultural background, meaning they personally understand the issues that need to be addressed. In my own case I grew up on a dairy farm, got an honours degree in horticultural science from Lincoln University, worked in a CRI and the private sector, and started a company exporting wasabi to Japan, before becoming chief executive of Lincoln Agritech.

Those connections continue at the organisational level, with much research funded or part-funded by industry bodies, in response to an industry need. For example, in my time on Lincoln Agritech, our scientists have carried out research funded by bodies such as NZ Apples & Pears, DairyNZ, and the Wool Research Organisation of NZ (WRONZ).

A second reason is the primary sector's importance to our economy. Although declining in percentage terms over the past decades, the primary sector accounts for five percent of our GDP (gross domestic product). It is an even bigger proportion of exports, with dairy, meat and animal products accounting for 28 percent of total exports by value in 2022. Our three major fruit exports (green and gold kiwifruit, and apples) accounted for another 4.9 percent.

This means there is significant willingness to fund research, which attracts world-leading researchers. Armin Werner, Lincoln Agritech's group manager, precision agriculture says one of his main motivations for emigrating to Aotearoa New Zealand was that it was a first-world country where agriculture made up a significant portion of GDP and was regarded as strategically important.

To continue growing our research capabilities and impact, we need to ensure we are researching global issues, and

able to take our research to the world. The best way to do that is through close connections with international researchers and research organisations.

On a recent trip to Europe, it became obvious to me that other economies face the same issues as ours: the need to meet climate obligations and find more sustainable ways of growing food and fibre, as well as labour shortages, seem universal. Other countries also face issues with food security.

Our science is as good as any science in the world, but we need to actively seek collaboration to ensure we are included in creating the solutions for the issues facing the primary sector in Europe and Aotearoa New Zealand. That's why Lincoln Agritech was delighted to last year join as a partner in a four-year Horizon Europe project.

Horizon Europe is the European Union's key funding programme for research and innovation, with a total budget of €95.5b (NZ\$173b) for its ninth seven-year cycle. In 2023 New Zealand became an associated country, meaning our researchers can join to establish and run research projects on equal terms with European partners and receive funding.

Actively seeking to be involved in such international projects means our scientists get more opportunities to collaborate globally, and to show to the world the excellent, globally useful science we are capable of. That is where our industry's future must go.

At the end of last year (2023), I stepped down as chief executive of Lincoln Agritech. Over the past 14.5 years I've seen the research industry grow in size and confidence. I leave secure in the knowledge that it is now realising the global impact it can have and is determined to grab the global opportunities that are there for the taking. ●

HAWKE'S BAY PILOT FOR HORIZON EUROPE PROJECT

Lincoln Agritech has joined universities and research institutions from Greece, Austria, Italy, Belgium, France, and Lithuania on a Horizon Europe project.

Known as STELLA, the project aims to provide the tools to establish digital monitoring systems. Lincoln Agritech is contributing expertise in presymptomatic sensing of fungal diseases and digital decision support. It will run one of the use case pilot programmes, in Hawke's Bay. This will involve monitoring spores and infections of *Neofabraea alba*, a fungus that causes bull's eye rot in apples. In New Zealand the project will collaborate with the Sustainable Food and Fibre Futures project "Smart & Sustainable" managed by NZ Apples & Pears.





FOSTERING PRIMARY INDUSTRY FUTURES FOR SECONDARY STUDENTS



NZ National Fielddays Society chief executive Peter Nation, agribusiness project curriculum director at St Paul's Collegiate School Kerry Allen, and past St Paul's Collegiate School headmaster Grant Lander with a 10th anniversary cake at the Fielddays 2023

Secondary schools are part of the pipeline of promoting horticulture as a career choice, but are they delivering the employees that growers need? HELENA O'NEILL takes a look at some of the horticulture programmes and initiatives in place in our secondary schools.

It's no news to anyone in the horticulture industry that there is a labour shortage. The Recognised Seasonal Employer (RSE) scheme came into effect in April 2007, allowing the horticulture and viticulture industries to recruit workers from overseas for seasonal work when there are not enough New Zealand workers. And there are programmes in place in our schools to help foster an interest in horticulture as a career, in a bid to secure the industry's future.

Horticulture New Zealand general manager of engagement Kate Longman says the labour shortage is a volume issue, but more specifically, a right people at the right time at the right place challenge.

"Fruit and vegetable production is intensive at some times of the year in some places, yet easy at other times of the year in other places, which influences the supply and

demand of labour. Horticulture needs smart people that want to work in an environment that interconnects people, soils, water, climate and plants to food production."

GoHort is a brand that is used to promote horticulture as a career. Kate says that several initiatives have been implemented and branded GoHort, the most significant being the career progression network that supported growers in finding workers during Covid-19.

"Horticulture New Zealand's capability portfolio scales up and back depending on the priority, and through Covid-19, labour attraction was at the top of growers' concerns. The need to promote horticulture as a career remains important but has become less urgent. HortNZ in partnership with the Fruitgrowers' Charitable Trust will continue to promote careers through the InZone Careers Coach [a bus] which visits secondary schools throughout New Zealand, and selected careers events and Field Days."

HortNZ is represented on the Subject Expert Group as a Career Pathway Adviser for the Ministry of Education in reviewing the secondary school curriculum for the Agriculture and Horticulture subjects at Level 12 (Form 6). In 2023 nearly 11,000 students took Agriculture or Horticulture at secondary school, with a further 524 taking Agribusiness as a subject.



Agribusiness class at John McGlashan College in Dunedin making beef jerky, marketing and packaging the end product

One of the pillars of the Aotearoa Horticulture Action Plan (AHAP) is to nurture people, and within this pillar is a key priority of establishing a coordinated capability framework for horticulture and the action of integrating a school and tertiary horticulture programme pipeline within the New Zealand education system.

Kate says the goal is for this strategy to attract students to the sector, but of most importance are the skills that are learnt at school through studying horticulture.

“Learning horticulture skills offers practical learning experiences, promotes environmental awareness, improves health and wellbeing, and develops valuable life skills, as well as providing exposure to career opportunities in our sector.”

She says there are a lot of people who are doing great work to encourage education in horticulture.

“A key aspect of HortNZ’s strategy is to enable those in the education system who are already delivering horticulture by providing the support they need for their learners to have great experiences. This starts with a fit-for-purpose curriculum, programmes, assessments, and access to high-quality relevant learning resources. HortNZ works through groups like the Horticulture & Agriculture Teachers Association to understand what their needs are and how we can help. Some of the initiatives aligned with this include Sow the Seed (AgHort Science), Agribusiness in Schools, and Agri Futures.”

Agribusiness in Schools marketing, branding and communications manager Catherine Bryant says the initiative evolved out of a 2013 parent survey at St Paul’s Collegiate School in Hamilton that concluded it was not meeting the needs of its students with rural backgrounds in encouraging them to consider pathways into the primary sector.

John McGlashan College in Dunedin was invited to be a lead school in the development of the Agribusiness in Schools programme. By 2017 there were 11 lead schools with 308 students trialling the delivery of Agribusiness.

Dr Craig Preston is the director of Agribusiness at John McGlashan College and also teaches Science, Bioethics and Health, and IB (International Baccalaureate) Biology.

In an interview with Agribusiness in Schools last year, Craig said Agribusiness teachers have the opportunity to shape young minds, inspire innovation, and witness the direct impact of education on real-world challenges.

Now there are 116 schools involved in the programme, 36 percent rural and 64 percent urban schools.

National Agribusiness subject advisor Melanie Simmons has been based at St Paul’s Collegiate School in Hamilton since 2018.

“Agribusiness is a multi-disciplinary subject with approved university entrance status. It integrates concepts from a range of learning areas including Sciences, Technology, Commerce, Mathematics and Statistics and has underlying themes of growing value, future-proofing and sustainability.”

Horticulture
New Zealand
Ahumāra Kai Aotearoa

**HortNZ Industry Training
2024 Scholarships**

\$500 for Industry Trainees studying toward a Certificate or Diploma

These 30 scholarships provide assistance and acknowledge the achievements of those who are working and studying in horticulture.

The selection team will be looking for:

- Commitment
- Potential contribution to the industry
- Past achievements
- Individual approach, qualities and skills
- Referees’ comments.

How to apply

Visit the HortNZ website to access the online application form: www.hortnz.co.nz/scholarships

Applications **close at 11 pm 7 April 2024**. Applications will be reviewed in April and announced in May.

Any questions regarding the scholarships can be directed to schols@hortnz.co.nz



Melanie says there is an urgent need for initiatives that encourage long-term career choices for students and an improved link between secondary schools, tertiary institutions and the agribusiness sector.

Large horticulture employers like MG see the importance of building pathways into the wider horticulture industry, implementing and supporting several initiatives.

MG general manager of communications and sustainability Ellery Tappin says that having a pathway into the horticulture and produce industry for young Kiwis is very important.

“While the likes of RSE scheme workers and backpackers on holiday visas will remain an important part of our industry in the future, we still need a pipeline of strong local talent to keep driving the industry forward.”

Ellery says this challenge, along with a large portion of the workforce being at the older end of the age spectrum, is a concern and something the whole industry should be focusing on.

“The MG Charitable Trust is also putting a strong emphasis on supporting initiatives which enhance education in the industry. The trustees have funded projects right from the primary school level in the past, but moving forward are only focusing on supporting those about to enter the industry or growers already in the industry who want to take their careers to the next level.”

“**A key aspect of HortNZ’s strategy is to enable those in the education system who are already delivering horticulture**

This focus led to the MG Charitable Trust becoming a funding partner with Agribusiness in Schools.

“It’s designed to help prepare the best and brightest students for careers in the primary sector. A key criterion for the MG Trust investing in the programme was to have more horticulture content included in the delivery of the course,” Ellery says.

“There’s a misconception that the industry is about digging up crops. We would like to see horticulture and the produce industry promoted in a way that highlights the depth and breadth of what’s on offer. It’s sophisticated, innovative, technology-driven, scientific, analytical and progressive – it offers so much right across the supply chain. It’s also incredibly important to provide everyday Kiwis with fresh, healthy produce.”

Te Pūkenga ako network director food and fibre and executive director at Primary ITO Andrea Leslie says that through its business divisions including Primary ITO, Te Pūkenga is committed to the horticulture industry.

“[We] provide vocational education online, on campus and in the workplace to ensure the appropriate skills and knowledge for each of the horticulture sectors are developed and implemented to benefit this vital part of our economy.”

Andrea says that Te Pūkenga works with employers to ensure programmes are meeting their needs and also supports attraction initiatives through marketing, industry events and within its school programmes.

“We also work closely with Horticulture New Zealand to support its initiatives such as the development of micro-credential delivery which is focused on specific and tailored needs for the industry”. ●

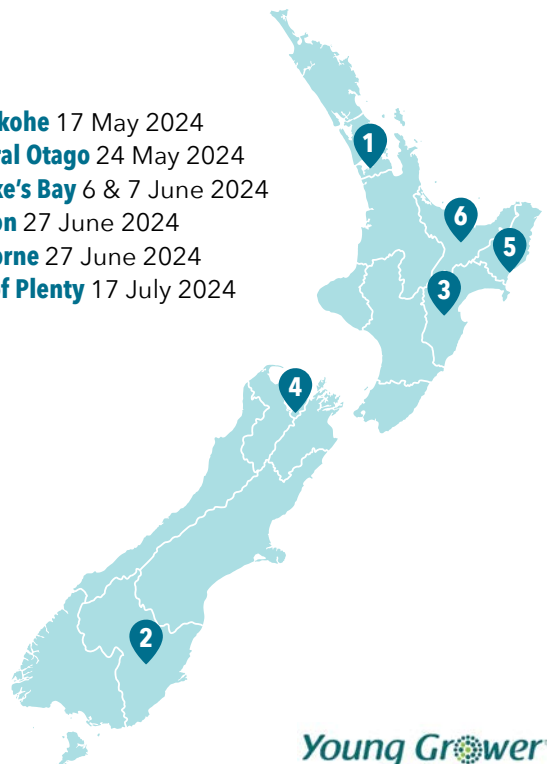


DATES FOR YOUNG GROWER REGIONAL FINALS

The Young Grower of the Year is an annual competition run by regional organisers and Horticulture New Zealand to select the finest young grower in the country. The competition supports the next generation of horticulture industry leaders. Find out about the regional events and how to enter on the Young Grower of the Year website:

www.younggrower.co.nz

1. **Pukekohe** 17 May 2024
2. **Central Otago** 24 May 2024
3. **Hawke’s Bay** 6 & 7 June 2024
4. **Nelson** 27 June 2024
5. **Gisborne** 27 June 2024
6. **Bay of Plenty** 17 July 2024



Young Grower
of the year



Notice of Special General Meeting (SGM)



**Thursday 15 February 2024 at 6.45pm
BNZ Partners Centre
Pukekohe**

(the regular PVGA meeting will be held after the SGM)

BUSINESS

1. Attendance registration
2. Proxies recorded
3. Two motions for members to vote on

Motion 1

Endorse the Vegetables NZ Inc (VNZI) Board meeting motion (September 2023) to include asparagus on the VNZI Constitution & Rules Schedule 1 crop list.

Notes

The Asparagus Council of New Zealand would like to join VNZI as a crop. To accommodate this request, VNZI members need to vote that they accept asparagus as a crop on the VNZI crop list.

Motion 2

Endorse the rules of the society be amended by adding the following as a new clause 13.12:

A Member, or the Member's proxy or representative, may participate in a general meeting by means of audio, audio and visual, or electronic communication if:

- a) The Board approves those means; and*
- b) The Member, proxy, or representative complies with any conditions imposed by the Board in relation to the use of those means (including, for example, conditions relating to the identity of the Member, proxy, or representative and that person's approval or authentication (including electronic authentication) of the information communicated by electronic means). To avoid doubt, participation in a meeting includes participation in any manner specified in these rules.*

Notes

VNZI's constitution was developed before the acceptance of digital representation and attendance.

A fit for purpose constitution would accept the presence of members in digital format (e.g. Teams/Zoom) enabling participation in actions (e.g. voting) when required at AGMs and SGMs. This would also recognise a method of participation in the event of non-attendance in person due to adverse events.

This motion accepts digital formats as a legitimate mode of attendance and participation at VNZI meetings (AGM/SGM).

Voting is by proxy and in person. Scrutineer – PVGA.



**For further information, contact: Antony Heywood
antony.heywood@freshvegetables.co.nz, ph 021 998 038, www.freshvegetables.co.nz**



WEEDING WITHOUT THE SPRAYS

Karen Trebilcock



Carrots are bunched in the field

Matthew Malcolm of So Sweet is keen to grow the organic market in New Zealand and is expanding and trialling new crops.

"More and more weed sprays are becoming banned around the world and it is only time until New Zealand follows," he says.

"All we're really doing with organics is getting ahead of that."

Making sure his organic carrots stay as weed free as possible currently starts months before planting the seeds.

A four-year rotation is used, with the ground brought back in for sheep pasture each time.

"We use the stale seed bed technique, so after we work the ground we use an LPG (liquid petroleum gas) flame to burn off any weeds, and we do that two or three times in the one to two months before we plant. Then after we plant, before the carrots come up, we do it one last time.

"It's a unit on the back of the tractor and we can do it at about walking speed, about 4km/h."

After the carrots are up, in between the rows is cultivated or brushed to keep weeds down, and then it's hand weeding.

"We have a lie-down weeding machine and you lie face down and pull out weeds. It's very relaxing. I quite like doing it myself, but I just haven't got the time."

So Sweet started growing organic carrots in 2006 for a couple of years and then gave up, but has got back into it four years ago.

“

All we're really doing with organics is getting ahead of weed spray bans



To hurry the process along Matthew started by leasing ground on a dairy farm already certified organic, but this year they will be back on their own farmland near Woodlands and Mabel Bush which is either owned or leased long term.

"On the dairy farm in one paddock we had the weed redshank beat us. We had to plough the whole crop in. There was nothing else we could do.

"You can deal with some weeds hand weeding, and it's okay to have some weeds in with the carrots, but once they start taking over, you lose your crop."



So Sweet managing director Matthew Malcolm checks the organic potato plants

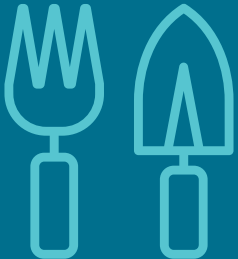
Hand weeding needs seasonal staff – extra to the 30 people So Sweet employ year-round for cultivating, planting, harvesting and packing.

“We can spend \$50,000 on hand weeding here and \$100,000 on the carrots at Willowmere.”

So Sweet bought Willowmere, an established 120ha organic vegetable farm at Hororata near Christchurch in June 2022, and although the purchase has created some logistical headaches, it is giving the label the ability to produce spring carrots earlier.

“At the time it was about securing organic market share, but there is no coolstore up there, no packhouse, so we are still working it into our systems.”

Matthew says the organic market is slowly growing in New Zealand, although it’s still concentrated in the cities, especially Auckland.



YOU CAN DEAL WITH SOME WEEDS HAND WEEDING, AND IT'S OKAY TO HAVE SOME WEEDS IN WITH THE CARROTS, BUT ONCE THEY START TAKING OVER, YOU LOSE YOUR CROP



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Prepack machine operator Alex Villanueva with bags of produce ready for sale



Organic potatoes in Southland coming up sweet

However, he's phasing out their organic parsnips.

"The parsnip market is already small, so organic parsnips is a percentage of that, smaller again, so it's just not worth it."

It costs twice the amount to grow an organic carrot compared with a conventionally grown one, but they achieve twice the sales price.

"You don't make any more money. It just a way of doing things. A state of mind really. You've got to believe in the principles."

And he says Southland is the perfect place to grow organic carrots.

"We don't get many pests, very occasionally aphids, so we don't need to spray for bugs anyway. And we have great soil, and whatever the weather is we can grow carrots.

None of their land floods and Southland's hail and snow at the end of October didn't damage the carrots about to be harvested.

"They were all tucked up safe underground. They were fine. If we had been growing lettuces the whole crop would have been destroyed."

The potatoes however, he worries about. A good frost followed the hail and snowstorm, and can occur even into December, but the emerging potatoes this time round handled it.

"We sometimes get leaves burnt off, but they come away again. We can't grow early potatoes like they do in Oamaru where they have no frosts because they're close to the sea, but we manage."



Weeding is very relaxing. I quite like doing it myself, but I just haven't got the time



So Sweet's organic potatoes get the same stale seed bed technique, but rowing the potatoes as they emerge takes care of any weeds, with anything troublesome easily hand pulled until canop closure is achieved.

They can supply carrots, organic and non-organic, all year round using a woven fabric to keep the carrot beds warm through winter, so plantings in late autumn are ready to harvest in spring onwards.

However, for those same spring months they have to wait it out for the new season's potatoes.

While there are bigger potato producers throughout the country, Matthew is proud of the role So Sweet has in the carrot and parsnip market and as a producer showcasing what Southland's deep, fertile soils and cooler temperatures can grow. ●

EYEING UP AUTOMATION IN SOUTHLAND

Matthew Malcolm of So Sweet hopes to someday own a robotic laser weeder.

The machine of his dreams will weed his organic carrots 24 hours a day, seven days a week so there will be no more hand weeding required and no crops needing to be ploughed in because the weeds have got away on him.

He'd watched videos of them on social media but now he's seen one for himself.

Part of the Callaghan Innovation delegation to FIRA USA 2023 (the International Forum for Robotic Agriculture) in September, he was shown a Carbon Robotics LaserWeeder working on a crop of organic baby spinach in the Salinas Valley in California.

"It was like listening to a fly zapper. Just zap, zap, zap.

"They took me out into a paddock and I could watch it working."

However, the LaserWeeder has a seven-figure price tag, and at 5.5m wide, it won't fit through his Southland gateways. To travel on the road between his paddocks it will need a pilot vehicle.

"They're not making them for the New Zealand market, we're just too small, in every way.

"The Salinas Valley where I saw it working is very large and very flat and very productive, growing vegetables on a huge scale.

"But the technology is now available and someday, I'm guessing in about three years' time, we may have one on farm."

The technology includes 42 cameras taking high resolution photos, a computer identifying in the photos what is a weed and what is not, an array of high-powered lasers with millimetre accuracy to take out the weeds at their growing point, and a massive diesel generator powering it all.

And it doesn't matter what the weather is doing - the weed will get zapped, leaving the soil bed undisturbed.

It moves at a slow 1km/hour and works best when weeds are small, some even smaller than most human eyes can spot. It still needs an operator to run it with a 175hp tractor, but Matthew believes it will soon be fully automated.

"There's the Carbon Robotics one, and another company also in the United States developing one, and one also in Europe, so it will be interesting to see how each one works and which one will be the best for us."

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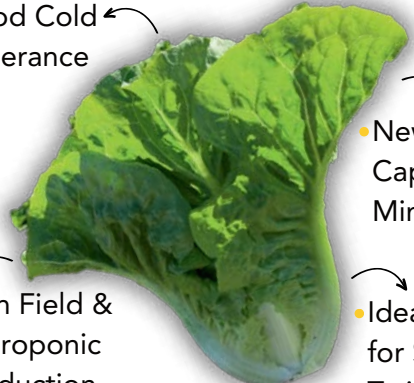
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HIGH LEVEL DIALOGUE ABOUT PACIFIC LABOUR MOBILITY

Helen Uiese : HortNZ Project manager, Aotearoa Horticulture Action Plan - Nurture People



The 2023 Pacific Labour Mobility Annual Meeting (PLMAM) took place in Port Vila late last year

The New Zealand Recognised Seasonal Employer (RSE) scheme is an internationally recognised circular migration strategy that makes a considerable and essential contribution to the economic, social and cultural development of New Zealand and to the Pacific Island communities from which the workers come. It is now in its 16th year and continues to foster relations with the nine Pacific nations through the arrangement of seasonal employment in the horticulture and viticulture industries.

The 19,500 workers are deployed across 11 regions undertaking work including planting, maintenance, harvesting, packing and winter pruning. The scheme has a profoundly positive effect on the productivity, viability and profitability of the horticulture and viticulture industries, not to mention the benefits to the individuals (both workers and growers) involved. The communities and villages in the Pacific benefit through remittances, and also from the transferable skills workers acquire whether through on the job learning or the Vakameasina RSE Worker Training Programme while in New Zealand.

Equally, we cannot turn a blind eye to the evolving challenges that are faced by workers, employers and Pacific countries.

The government of Vanuatu together with the PACER (Pacific Agreement on Closer Economic Relations) Plus Implementation Unit hosted the 2023 Pacific Labour Mobility Annual Meeting (PLMAM) in Port Vila, Vanuatu from 20 to 24 November 2023. The theme focused on harnessing the development benefits of labour mobility for the Pacific region and included a two-day regional workshop on sustainable reintegration.

“

It provided a wonderful learning and networking forum to hear and connect with our Pacific partners, workers and international organisations

An inaugural Employer Forum for Australia and New Zealand employers provided an opportunity for dialogue on the complexities and initiatives currently in play to address the challenges, and how to mitigate risks. The aim was to have an employer voice at the regional level.



NZ Apples and Pears chief executive Karen Morrish spoke at the meeting

A New Zealand employer, contractor and industry delegation attended the meeting in Vanuatu together with participants including workers, employers, government officials, delegates from the private sector, unions, civil society, academics and regional organisations from the Pacific, New Zealand and Australia. There were also delegates from global organisations. It was a good opportunity to share experiences, research findings and ideas on how employers can support the advancement of labour mobility in the Pacific.

NZ Apples and Pears chief executive Karen Morrish was elected by the Employer Forum to present the agreed commitments to supporting the development benefits of labour mobility in the Pacific region. An outcome statement compiled of agreed commitments and priority areas for the next 12 months will be discussed at the PACER Plus Trade Ministers Forum.

The PLMAM provided a great opportunity for stakeholders to present research findings to highlight what is working well and to propose best practice to address the social and economic complexities of labour mobility. It provided a wonderful learning and networking forum to hear and connect with our Pacific partners, workers and international organisations vested in making labour mobility work in the region.

The New Zealand delegation saw immense value in being part of the PLMAM to present an employer perspective

in advancing labour mobility with Pacific partners. There are many success stories and best practice employers committed to a partnership with their workers and their Pacific communities. Horticulture New Zealand also supports and advocates for the 'New Zealanders first' approach and work is being done in this area.

“

We cannot turn a blind eye to the evolving challenges that are faced by workers, employers and Pacific countries

RSE scheme employers see the value of being more engaged at high level meetings with Pacific partners and international organisations in the next PLMAM gathering in 2024. For growers who employ RSE scheme workers, participating at PLMAM increases understanding of the operational challenges faced by the Pacific, as well as appreciation of how labour mobility affects the Pacific region.

HortNZ encourages all RSE scheme employers to consider attending the 2024 PLMAM, which is to be held in Australia. The RSE newsletter will provide further details once these are released by PACER Plus. ●



WILL THE EUROPEAN UNION REMAIN A KEY MARKET?

John Gauldie



European exporters, shippers and buyers will meet at this year's Fruit Logistica in Berlin from 7 to 9 February

After years as New Zealand horticulture's top export destination, the European Union has fallen well behind China and just below Japan. Last year's earnings from the trading bloc tumbled almost \$350 million from the 2021 high. However, 2024 could see a return to form thanks to strong supply and an end to tariff trade barriers.

New Zealand's first 2024 onion exports to Europe left in January, but may not benefit from the New Zealand-European Union Free Trade Agreement (NZ-EU FTA).

At the end of 2023, the European Parliament voted in favour of ratifying the agreement. However, the agreement will not come into force until the New Zealand government follows suit.

"The ball is now in our court," says Stephanie Honey, chair of the New Zealand Horticulture Export Authority. "The new government has a heavy legislative agenda but we hope that getting the FTA ratified will be an early priority, so that the sector can start to take advantage of those tariff savings for the coming season."

Onions NZ chief executive James Kuperus agrees.

"We have been vocal with ministers to make sure they are aware of the urgency. It's one of our top priorities for the new government."

Onions and kiwifruit, with their large EU markets, stand to benefit most from tariff relief. Based on last year's export figures, around \$60 million in tariffs per year will be slashed from day one, including nearly \$52 million on kiwifruit alone. Zespri's first fruit is scheduled to depart for Europe in mid-March.

Stephanie says that tariffs don't just matter in terms of better export returns but also because they impact on our competitive position in the European market. "Thanks to the FTA, we will now have a level playing field for tariffs."

While New Zealand kiwifruit and onion exporters have been facing EU tariffs of between 8.8 and 9.6 percent, many of our biggest Southern Hemisphere competitors gain entry for their products duty-free. Other New Zealand fresh, frozen and processed horticulture products face even higher EU tariffs - in some cases, up to 33 percent.

Securing the FTA has been a major achievement for the New Zealand government and everyone involved in the negotiations - particularly while our neighbours across the Tasman still have a long way to go with their own EU FTA.

“Horticulture is one of the big winners from the FTA,” Stephanie continues. “Getting our exports onto a more predictable, lower-cost footing is very important to the resilience and prosperity of the sector. It is also timely, given that the international trade environment continues to be buffeted by supply chain disruptions, trade tensions and other challenges.”

The FTA also includes some valuable new commitments on non-tariff measures, including greater use of digital tools and deeper cooperation on phytosanitary rules, reflecting that we are a trusted trading partner with proven compliance on biosecurity issues.

“All of this will help to ensure that exporting is more streamlined and less costly - which really matters after several years of supply chain disruptions,” Stephanie says.

“The FTA is a very good outcome for New Zealand onion producers,” James confirms. “It remains to be seen how the zero tariff will benefit growers directly - either through increased farmgate value or more competitive supply into the EU. But it’s extremely significant - 10 percent relief is a huge jump for the sector when we are used to negotiating over smaller margins.”

“

THE EU-NZ FREE TRADE AGREEMENT IS EXTREMELY SIGNIFICANT - 10 PERCENT RELIEF IS A HUGE JUMP FOR THE SECTOR



JAMES KUPERUS, ONIONS NZ

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However, New Zealand horticulture's overall export earnings (FOB) from EU trade have dropped significantly during the last two years - from close to \$1 billion in 2021 to almost \$614 million in the year ending November 2023.

While supply issues have affected EU exports, Hamish Marr, New Zealand's Special Agricultural Trade Envoy, also sees changing consumer demand behind the trend.

"Consumers in Europe increasingly think about buying local and can't get their head around the distance to New Zealand. We have a hell of a good story, even with the environmental cost of shipping included, but the consumer perception is something else."

The buy local trend is certainly one of the factors driving a decline in all onion imports into the EU, James says. Onion imports from all countries in the Southern Hemisphere declined from 250,000 tonnes in 2000 to about 100,000 tonnes in 2023. Another factor is the greater and better storage capacity in the EU. However, he doesn't believe New Zealand growers have been hit as hard as other Southern Hemisphere onion producers.

"New Zealand onion exports have remained at about 60,000 tonnes - because we are a preferred supplier. We have developed a reputation for food safety credentials and our reputation for reliability and quality. Europe will still need counter seasonal supply and we firmly believe the EU will remain a top market for New Zealand onions."



Onions and kiwifruit, with their large EU markets, stand to benefit most from tariff relief

The FTA is welcome news for kiwifruit growers who have had a tough couple of seasons dealing with challenges including the changing climate and rising costs, says Zespri's head of global public affairs, Michael Fox. However, with the harvest set to get underway this month, Zespri is forecasting an increase in New Zealand supply to all key markets, including Europe.

"Planning is well underway with initial estimates suggesting we're looking at volumes similar to the 2021 season, which will likely be our biggest year-on-year growth in volume. Global demand for our fruit continues to grow, and despite a number of headwinds in the last two seasons we believe the opportunities ahead of us to create value for New Zealand communities are significant."

The FTA will also help to strengthen commercial and cooperative relationships - including cross-border investment, licensing, and information sharing between New Zealand and European producers, investors and producer organisations. As Trade Envoy, Hamish has held many conversations with EU politicians and European industry leaders in Brussels.



Stephanie Honey is chair of the New Zealand Horticulture Export Authority (left) and Hamish Marr is New Zealand's Special Agricultural Trade Envoy (right)

He has also hosted them at his Canterbury farm where he grows arable crops and process vegetables.

"Everyone speaks very highly of the trust between New Zealand and the EU. We have a long, healthy and trusted relationship. We need the stability that Europe can offer. But you have to remember that the EU is a highly regulated economy with a heavily subsidised agricultural sector and a degree of market protection that we don't have."

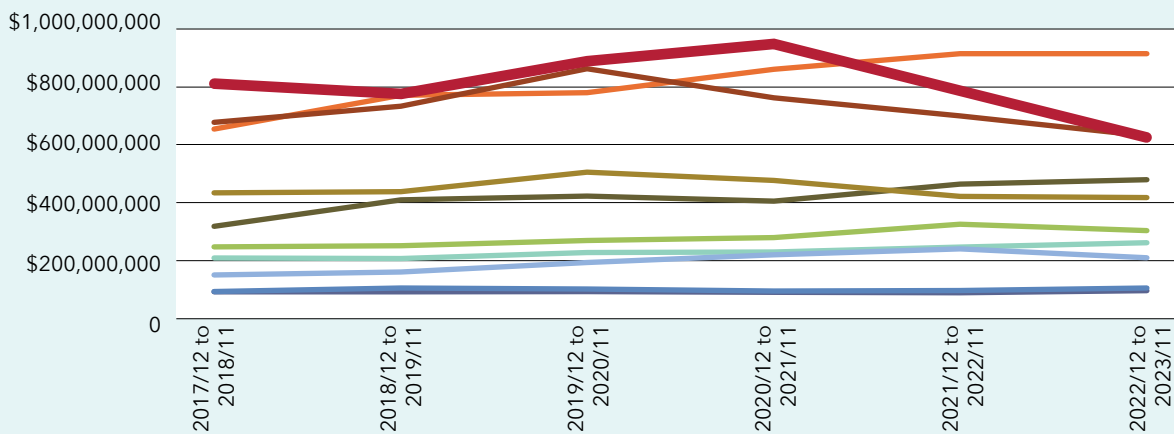
While the FTA includes some ground-breaking commitments on tackling environmentally harmful subsidies, Stephanie says, unfortunately it stops short of new commitments on agricultural subsidies, which can have a range of negative effects not just on competitive exporters but also on the environment and global food security. EU member states may also apply rules differently and can introduce their own regimes on sustainability - particularly as the EU's Green Deal ambitions come under pressure.

Late last year the European Parliament rejected the European Commission's proposal on the Sustainable Use of Plant Protection Products (SUR), effectively dropping a key pesticide ban in the bloc's Farm to Fork strategy in the Green Deal. Shortly afterwards, the European Commission renewed approval for the herbicide glyphosate, just before its existing authorisation expired. There has been a highly polarising public debate on these policies in the EU.

Hamish notes that industry organisations in Europe such as COPA-COPEGA (Committee of Professional Agricultural Organisations-General Confederation of Agricultural Cooperatives) have been saying for years that the Green Deal is problematic. "What I think we're seeing now is that the pesticide section is likely to fall over, simply because there are no alternatives. Now the EU is looking more favourably at genetic engineering. I think it's 'watch this space' with the Green Deal. You will see a change coming."

However, Hamish believes sustainability will remain the number one focus for the Commission on agriculture. "It won't go away but it will change. Every second sentence that I was hearing at the Commission was about sustainability."

NEW ZEALAND HORTICULTURE'S TOP 10 EXPORT DESTINATIONS (EXCLUDING WINE)



NZ horticulture export earnings
FOB 2022/12 to 2023/11

Earnings
per capita

	NZ horticulture export earnings FOB 2022/12 to 2023/11	Earnings per capita
China	\$920,400,687	\$0.65
Japan	\$622,637,688	\$4.95
EU	\$613,976,485	\$1.40
ASEAN	\$486,076,616	\$0.72
Australia	\$411,925,681	\$15.58
Taiwan	\$308,353,352	\$13.08
USA	\$268,663,121	\$0.81
South Korea	\$213,003,245	\$4.12
Hong Kong	\$106,781,258	\$14.40
Pacific Islands*	\$103,539,400	\$7.57

Source: Statistics New Zealand

Aggregated Harmonised System (HS) codes FOB values, Vegetables and certain roots and tubers; edible (7); Fruit and nuts, edible; peel of citrus fruit or melons (8); Preparations of vegetables, fruit, nuts or other parts of plants (20)

*Pacific Islands includes Pacific Island Forum countries excluding Australia and NZ, including American Samoa

“The overall direction is pretty clear,” James says. “EU regulations will have a big effect on onion growing here but I think New Zealand growers will be well prepared. As a sector we’re more cohesive and work well with government, which makes us able to react faster. The reaction to the EU ban on Mancozeb is a good example. It shows that we can do it.”

Zespri will continue to strive for more sustainable ways to provide the best quality fruit to its markets, Michael says. “However, it’s important that growers are supported in this transition, particularly when they’ve been under so much pressure in recent years.”

Zespri also sees opportunities in the FTA for New Zealand to partner with European counterparts on key challenges including sustainable food production and climate change – for example through access to Horizon Europe, Europe’s largest science collaboration platform.

“This will allow experts and innovators in both parties to work together to tackle these challenges,” Michael says. “It will be important to consider how New Zealand can

access the benefits of this innovation, including through permissive and aligned regulatory settings where appropriate.”

Stephanie says that one of the novel elements of the FTA is a new formal cooperation chapter on sustainable food systems. This creates an important platform for engagement on organic and regenerative farming, the use of fertilisers and chemicals, resilient food supply chains, indigenous knowledge in food systems and the environmental and climate impacts of food production.

“It will be very useful to keep engaging with Europe on these issues. It also gives us the chance to showcase our unique approach and credentials in this area.”

It makes sense that Europe wants to work with New Zealand on sustainability, Hamish says. “When people want to partner with you, it tells a story. We have to remind ourselves how good we are. We’re conscious that we are small player, but having said that, we well and truly punch above our weight. Be proud of what you’re doing and tell that story to the world.” ●

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MANAGING RISKS IN HORTICULTURE: A COLLABORATIVE APPROACH TO EDUCATION AND SAFETY

Nat Bond : consultant



Risk management identifies hazards through systematic approaches and analysing, evaluating, and controlling these risks effectively

In the realm of natural disasters, few events rival the raw power and unpredictability of a tropical cyclone. February 2023 marked a significant chapter in New Zealand's climatic history as Cyclone Gabrielle wreaked havoc across the North Island. Between 12 and 14 February, Aotearoa New Zealand faced the fury of this severe storm. Heavy, unrelenting rainfall led to widespread flooding across regions. Ferocious winds tore through communities, and massive waves crashed along the coasts. This extreme weather left indelible marks on both the land and its people.

In the midst of this severe weather, the horticulture sector, a cornerstone of New Zealand's economy and identity, faced unprecedented challenges. The impact of Cyclone Gabrielle on the horticulture industry was multi-faceted, stretching from immediate physical damage to long-term

operational disruptions. It underscored a pressing need for targeted strategies and knowledge to mitigate such risks and foster resilience within the industry.

In response, a series of workshops titled "Introduction to Managing Risk in Horticulture" were developed by a group of key industry players – Horticulture New Zealand (HortNZ), Grow Home Safe, IMPAC, and the Ministry for Primary Industries (MPI).

“**The workshops, which reached five regions across the North Island, were a testament to the industry's resilience and commitment to safety**

These workshops were a proactive endeavour to equip frontline managers and growers with crucial risk management skills. This initiative represented not just a reaction to a singular event, but a strategic step towards empowering the horticulture community to navigate and thrive amidst the increasing unpredictability of weather patterns.



IMPAC, New Zealand’s foremost experts in health and safety, played a pivotal role in the development and delivery of the workshops. In co-designing the course content, IMPAC brought their extensive knowledge and specialised focus on health and safety to the forefront. They were instrumental in developing content that was not only informative but also engaging. A significant contribution was their video content, which included a detailed case study of Apatu Farms in the aftermath of Cyclone Gabrielle. This case study provided a tangible, real-life example of the challenges and strategies in managing risks associated with severe weather events. By documenting this story, IMPAC ensured that the workshop attendees could see the practical application of the principles being taught, enhancing the overall impact and relevance of the training.

The workshops, which reached five regions across the North Island, were a testament to the industry’s resilience and commitment to safety. Workshops were offered in Kerikeri, Pukekohe, Te Puke, Gisborne, and Hawke’s Bay and attended by over 60 participants including orchard owners, supervisors and health and safety managers.

Here’s a reflection on the key learnings from the workshop.

Attendees delved deep into the Health and Safety at Work Act 2015, grasping its core purpose and essential components. This understanding is vital in ensuring not only compliance but also the safety and wellbeing of all involved in horticultural endeavours.

The workshop clarified the roles and responsibilities of various parties in the horticulture sector. Understanding the distinct yet interconnected responsibilities of PCBUs (persons conducting a business or undertaking), officers, and workers has empowered attendees to foster safer workplace environments.

A cornerstone of the workshop was the comprehensive risk assessment process. Participants learned to identify hazards through systematic approaches and to analyse, evaluate, and control these risks effectively. This process is critical in pre-emptively addressing potential hazards in horticultural operations.

Various methods for hazard identification were discussed, including incident investigation and task analysis. Attendees are now proficient at identifying a range of hazards, from mechanical to psychosocial, ensuring a holistic approach to workplace safety.

In terms of risk control and management, the workshop emphasised the hierarchy of risk control and the implementation of a Safe System of Work (SSOW). These concepts are essential for mitigating risks in a structured and effective manner.

The ‘bow tie’ method, introduced during the workshop, was particularly impactful. This visual tool aids in understanding and managing risks, encompassing causes, controls and preparedness measures. Its practical application was a highlight for many participants.

Real-world applications were not overlooked. Practical examples and case studies brought the theory into context, demonstrating the real-world implications and applications of risk management principles in horticulture.

Emergency preparedness and response planning were also covered. Attendees learned to develop comprehensive emergency plans tailored to specific business risks, a crucial step in safeguarding against unforeseen events.

The importance of Personal Protective Equipment (PPE) was emphasised along with guidelines for its proper use and maintenance. This knowledge is fundamental in ensuring the safety of workers on a daily basis.

Lastly, the workshop highlighted the significance of health and exposure monitoring in the workplace. Attendees learned about maintaining health records with confidentiality, emphasising the importance of regular health monitoring for workers.

A notable aspect of these workshops was their affordability, made possible by MPI’s North Island Weather Events Fund (NIWE), allowing them to be offered at a heavily discounted rate of \$75 +GST per person. This move significantly widened access, ensuring that the teachings of these workshops reached a broader segment of our community.

Feedback from those who participated was overwhelmingly positive. Attendees particularly valued the practical approach to learning, with interactive elements aiding in hazard identification and risk assessment methods. Many highlighted the benefit of refreshing their knowledge on risk assessments and the ‘bow tie’ process model. This positive response underlines the success of

FEEDBACK FROM THOSE WHO PARTICIPATED IN THE WORKSHOP WAS OVERWHELMINGLY POSITIVE.



ONE ATTENDEE COMMENTED, “I’VE GAINED INVALUABLE TOOLS AND IDEAS TO IMPLEMENT EFFECTIVE RISK MANAGEMENT PRACTICES. THE WORKSHOP’S RELATABLE INDUSTRY EXAMPLES AND INTERACTIVE ELEMENTS MADE THE CONCEPTS VIVIDLY REAL, REINFORCING THE IMPORTANCE OF HAZARD AWARENESS IN OUR DAILY OPERATIONS.”

the workshops in not just imparting knowledge but also in instilling a sense of confidence and preparedness among the participants.

One attendee commented, "I've gained invaluable tools and ideas to implement effective risk management practices. The workshop's relatable industry examples and interactive elements made the concepts vividly real, reinforcing the importance of hazard awareness in our daily operations. As a member of the Health & Safety team, it's important that I stay informed to support our wider team, and this workshop has confirmed and expanded my knowledge. It served as a timely refresher in several areas, reminding us of the right measures we're already taking and providing fresh perspectives on areas we can improve. Whether it's operating tractors or aiming to explain our Health & Safety rules more clearly to the team, the workshop provided a really good overview, specific to horticulture, that will improve our control systems and risk assessment processes."

This initiative's success would not have been possible without the collaboration and support of various stakeholders. PGG Wrightson's help in providing meeting spaces was a valued contribution to the project. Their

involvement shows the strong sense of community in the industry and highlights how working together is key for educational and safety initiatives.

These workshops represent a significant step towards a safer, more informed horticulture community. The collaboration of HortNZ, Grow Home Safe, IMPAC, MPI, and PGG Wrightson has set a precedent for future endeavours in industry education and safety.

In navigating the impacts of severe weather events, the power of collective effort in education and safety becomes ever more vital. These workshops have not only equipped our community with crucial knowledge and skills but have also demonstrated the strength of collaboration in overcoming industry challenges. As the horticulture sector continues to evolve, such unified efforts will remain pivotal for its resilience and sustainability. ●

For further information and resources, visit:
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PARTNERSHIP TO IMPROVE RURAL AND REGIONAL FORECASTING

Contributed



HortPlus director Mike Barley with MetService business development manager Peter Fisher

A partnership between New Zealand's national weather service MetService and homegrown agri-tech experts HortPlus will improve the quality of rural weather forecasts and allow weather data to be used in new and innovative ways.

The partnership will enable MetService and HortPlus to share information from their respective weather station networks, providing more data points for forecasting. MetService utilises more than 400 weather stations across New Zealand and HortPlus has a network of close to 100 on orchards and farms around the country.

MetService business development manager Peter Fisher says the sharing of weather station data is being introduced in tranches, with the first station data already being shared and the remainder being shared over the coming months.

He says the partnership will further enhance weather forecasting in New Zealand, particularly in some rural areas of regions such as the Bay of Plenty, Wairarapa, and Northland where the distance between its existing weather

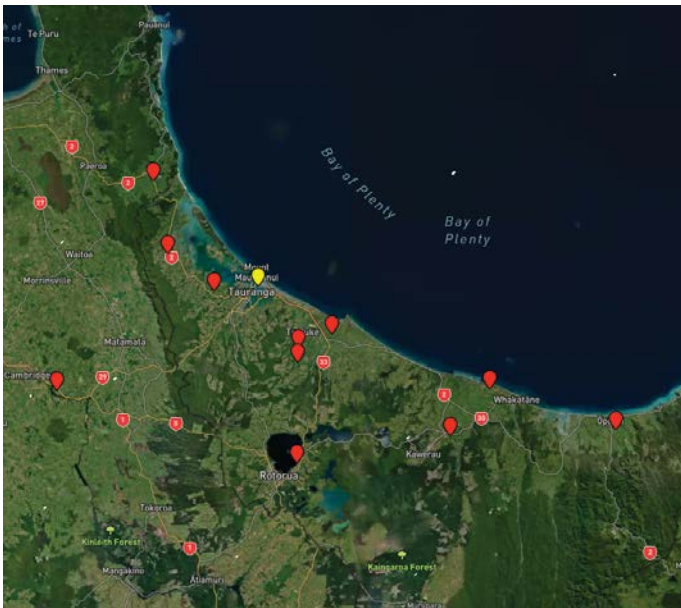
stations is the largest. As well as providing access to more weather stations, the agreement will enable data to be sent to MetService by HortPlus every ten minutes.

"You can never have enough data points as a forecaster. Having finer spatial and temporal resolution means we can better verify our forecasts and identify any anomalies with our respective stations.

"It is also helpful for longer-term forecasting. This is notoriously challenging, especially in a country like New Zealand where the weather changes quickly and often, but more data points and more regularly updated weather information helps forecasters make even more accurate predictions."

HortPlus director Mike Barley welcomes the partnership and says access to MetService's vast high quality weather station network, along with stations of its partners, will "supercharge" the specialist pest, disease and water management tools HortPlus provides to orchardists and farmers via its MetWatch platform.

HortPlus' MetWatch platform combines weather data with scientific models created by leading New Zealand researchers, helping growers in industries ranging from kiwifruit and apples to vegetables and arable crops to



HortPlus and partner weather stations across the Bay of Plenty



HortPlus and partner weather stations across the Bay of Plenty

make decisions about water management, land use, and which pest and disease controls to apply.

“We are thrilled to partner with an organisation like MetService that possesses such a degree of integrity and technical expertise, as well as an impressive forecasting network,” Mike says.

“Access to data provided by MetService weather stations will instantly improve coverage for the tools we provide to our customers and may also give rise to exciting opportunities to serve up some of our specialist horticultural pest, disease and water management forecasting resources via MetService channels.

“There’s massive scope for growers to use more data in their decision making, whether to improve productivity, minimise risk, or provide for more sustainable solutions.

“Data driven decision making is particularly important today as our climate changes, because the weather norms of past decades can no longer be relied on in some regions. While changing weather poses a challenge, it also creates an opportunity, and we may well see some crops grown in regions where we previously thought it wasn’t viable - think apples in Canterbury, or kiwifruit in places south of Nelson.” ●



A HortPlus weather station in Canterbury

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MetWatch is available by subscription, as well as free of charge to registered growers and researchers via weather and disease portals on the websites of Zespri, NZ Apples & Pears, Summerfruit NZ, Onions NZ, Vegetables NZ, NZ Plant Producers Inc and Foundation for Arable Research.



UNTANGLING SOIL NITROGEN TESTING

Henry Stenning and Andrew Barber : Agrilink NZ

This article steps through the types of soil nitrogen tests, what to request from the laboratories, and what results to enter into the SVS Decision Support Tool.

There are excellent resources, particularly around taking representative soil samples, on the LandWISE website:

www.landwise.org.nz/projects/vegetable-production-nitrogen-management/

Guidelines on soil nitrogen testing have also been produced by Plant & Food Research and contain additional background information:

www.plantandfood.com/en-nz/article/soil-nitrogen-testing-and-predicting-nitrogen-supply

The different forms of nitrogen

Most nitrogen within the soil is locked away in soil organic matter, a form that cannot be accessed immediately by plants. Lab tests often express **Total Nitrogen** (yellow font in Figure 1) as a percentage of the soil dry weight. However, total nitrogen provides relatively little help in the fertiliser decision making process.

Total nitrogen in soil is usually composed of a large proportion of organic nitrogen and a smaller amount of mineral nitrogen. **Mineral nitrogen** (white font in Figure 1) is the form of nitrogen that the plants can readily take up, and typically comprises just a few percent of the total soil nitrogen. While most of the organic nitrogen in soil is not biologically active, about two to five percent of it can be converted to mineral nitrogen through a process known as **mineralisation**.

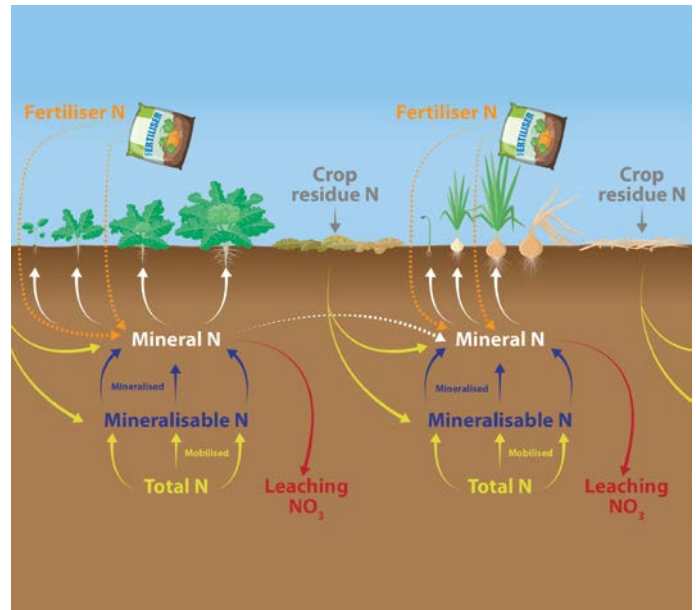


Figure 1. A visual demonstration of a crop rotation and soil nitrogen dynamics. Soil organic N is mineralised to mineral N, which can be taken up by plants. One of the two forms of mineral N, nitrate (NO_3^-) can leach through the soil profile and beyond the root zone. Source: Plant & Food Research

Mineral nitrogen occurs in two primary forms, **nitrate** and **ammoniacal nitrogen**, each of which can be taken up by plants. Nitrate typically receives more attention (both in testing and in the media) than ammoniacal nitrogen for two reasons. Firstly, nitrate is usually the predominant form of mineral nitrogen in cropping soils. Secondly, nitrate has low affinity to soil surfaces and is water soluble, therefore it is prone to leaching. This makes mineral nitrogen a tricky nutrient to track, and results in environmental degradation through aquifer contamination and eutrophication of surface water.



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Vegetable
Systems

Ministry for Primary Industries
Manatū Ahu Matua



Figure 2. Laboratory request form with mineral nitrogen test and mineralisable nitrogen test requests

From a practical perspective, what is of most interest to the fertiliser decision maker is the quantity of mineral nitrogen available to the plant at any one time. To determine this value, you need to take a **mineral nitrogen test**.

You will also be interested in the release of mineral nitrogen from the mineralisation of soil organic nitrogen (blue font in Figure 1) over time (e.g., a growing season). A **potentially mineralisable nitrogen test** provides an estimate of how much nitrogen *could* be mineralised under optimal conditions.

How to test for mineral and mineralisable nitrogen

The basic principles of taking any soil test are:

- **Determine the sample depth.** For most vegetable crops the sample depth (core) should be to 30cm. Where a shallower sample is being taken, for example to 15cm, the results will most likely need to be scaled up to the active crop rooting depth (typically 30cm).
- **Ensure your sample is representative of the paddock.** Take at least 10 samples (cores) along a transect that covers as large a portion of the field as possible. The transect may be a diagonal line or better still a W-shape. Avoid sampling in areas that are not representative of the paddock as a whole, such as around gateways, in wheel tracks or tramlines, along hedgerows or in the headlands. Make sure all samples are evenly mixed before sending to the lab or testing yourself.
- **Have the right equipment.** The choice of a soil corer or auger depends on the conditions. Having the correct sampling equipment can significantly reduce the time spent sampling. In the sticky clays around Pukekohe we have found the Dutch auger works best. A step corer has worked successfully on more friable soils or in summer.

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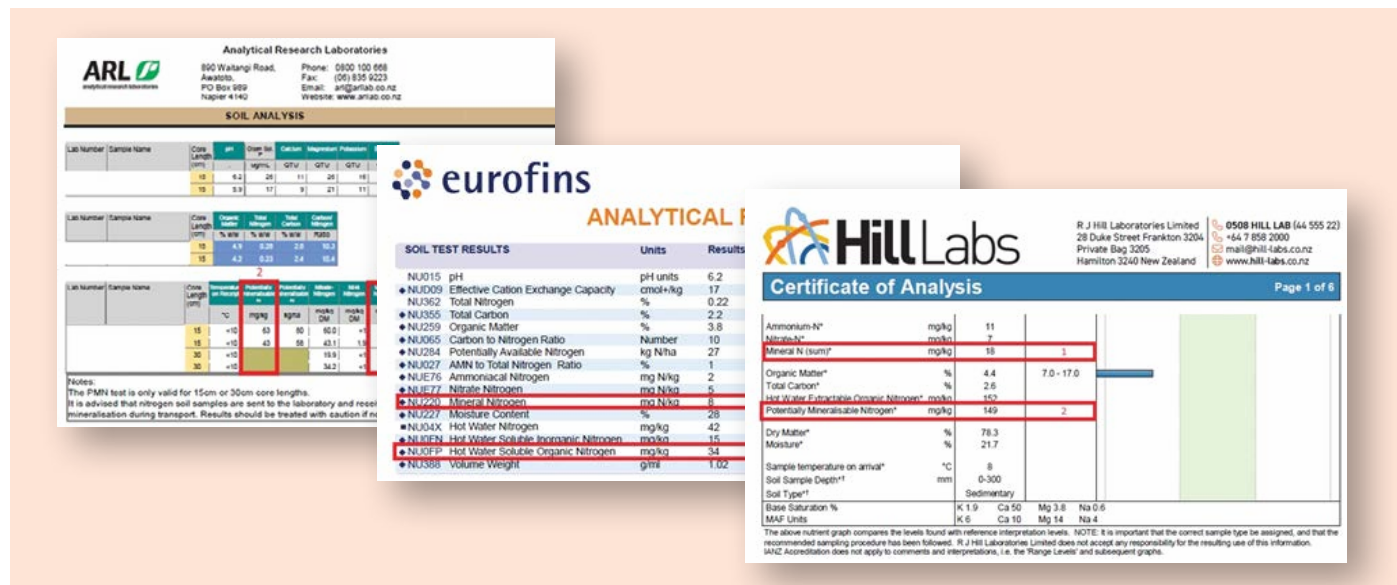


Figure 3. Laboratory request results with mineral nitrogen test and mineralisable nitrogen test results

Testing for mineral nitrogen has its own additional considerations:

- **Mineral nitrogen can change rapidly.** Rainfall, irrigation and crop growth can rapidly decrease the quantity of mineral nitrogen available to plants. Meanwhile, fertiliser, mineralisation and the breakdown of crop residues can drive significant accumulation of mineral nitrogen. Therefore, testing for mineral nitrogen should be done as close to the fertiliser decision making time as possible. This may mean testing immediately before planting, or following a significant rainfall event, or during crop growth to help inform side dressing decisions.
- **Keep the sample cold** to slow down mineralisation. Ice packs are useful if you plan on leaving the sample in the back of the ute for a few hours. We have also found that we need to freeze our samples overnight (much to the displeasure of some) prior to sending to the lab. No amount of couriating wrapped in ice packs has worked for us. This is the most pragmatic solution based on the advice from Plant & Food Research.

Mineral nitrogen tests

Laboratory mineral nitrogen testing (potassium chloride (KCl) extraction). This is also referred to as Deep N or Min N, and usually requires ticking an additional box when submitting your laboratory sample. The **sample must be kept cold to slow the mineralisation process**. Results will be provided as nitrate-nitrogen and ammoniacal-nitrogen, both in mg N/kg. Some labs also provide a total mineral nitrogen value, also expressed as mg N/kg.

Nitrate Quick Test, also known as Quick N. As the name suggests, this tests for the nitrate fraction of mineral nitrogen. As this is generally the predominant form, and the most prone to rapid changes, the Quick N Test will provide a good guide of plant available nitrogen. Additionally,

from a production perspective, having a conservative result provides a useful risk-buffer when making decisions. The same principles of sample collection and keeping the samples chilled as in laboratory testing also apply for Quick N. The Foundation for Arable Research (FAR) has a useful guide on the Quick N Test - and on where to purchase the necessary equipment. Nitrate Quick Test results aim to give a **general indication** of plant available nitrogen, and are expressed as mg NO₃-/L. These results are entered into the SVS Tool for converting into kg N/ha.

Potentially mineralisable nitrogen test

Potentially mineralisable nitrogen (PMN) values do not usually change rapidly (an exception being following land use change - e.g., long term pasture to cropping) and so **mineralisable nitrogen can be tested for alongside your standard annual or bi-annual soil tests** for pH (acidity/alkalinity), P (phosphorus), CEC (cation exchange capacity), etc. The terminology and units used by different laboratories for mineralisable nitrogen tests can vary. It is important to remember that **all mineralisable nitrogen tests are testing for the same value - the background supply of nitrogen from the soil organic pool over a certain time period**.

Depending on the laboratory, the mineralisable nitrogen test may be referred to as Hot Water Extractable Nitrogen (HWEN), Potentially Mineralisable Nitrogen (PMN), Anaerobically Mineralisable Nitrogen (AMN), or Potentially Available Nitrogen (PAN) - with the last two being older test methods that are being phased out.

The Sustainable Vegetable Systems (SVS) programme is working with the commercial laboratories to align the terminologies used for this test and standardise the reported units to hopefully reduce confusion. Figures 2 and 3 indicate the key tests and results from each of the three main commercial laboratories.

Mineralisable nitrogen test results are usually expressed in **mg N/kg**, with the reported quantity of nitrogen that can potentially be released over a set period of time. These raw test results must be converted into kg N/ha over the crop growth period and adjusted for local environmental conditions. These factors are not known by the laboratory, so it is critical that the raw test result is entered into the SVS Tool that converts it into crop and paddock specific values. Note: Do not use the mineralisable nitrogen test result on its own to forecast how much mineral nitrogen will be supplied over the growing season - the SVS Tool will do this for you based on your individual circumstances.

The SVS Tool - integrating measured results into your fertiliser decisions

The SVS Decision Support Tool will convert the raw soil test results into a useable form, enabling you to get the most out of your soil testing. The significant step forward is that the SVS Tool integrates nitrogen budgets and soil testing. Measured values progressively replace modelled values as the crop grows.

For **mineral nitrogen** test results, the SVS Tool converts units of mg N/kg (laboratory) or mg NO₃/L (Quick N) into kg N/ha, adjusting for the sample core depth, crop rooting depth, and soil bulk density.

For **mineralisable nitrogen** test results, the SVS Tool adjusts this for the duration of crop, the soil type, time of year and other environmental conditions. This converts an abstract result in mg N/kg into a kg N/ha prediction for the specified crop growth period - allowing this free nitrogen source to be factored into the fertiliser decision-making process.

In summary, soil nitrogen testing boils down to two values - **how much nitrogen is there right now (mineral N)**, and **how much nitrogen is being supplied from the soil over time (mineralisable N)**. Interpreting the results, whether from laboratory testing or Quick N, can be a challenge - however, the new SVS Tool integrates soil testing into a simple Nitrogen Decision Support Tool.

With thanks for article feedback from Mike Beare (PFR), Dan Bloomer & Alex Dickson (Page Bloomer), Erin McIlmurray and Fiona Calvert (Hills Labs), and Hendrik Venter (ARL).



If you have feedback or would like to access the SVS Tool please contact: andrew@agrilink.co.nz

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WHAT'S COMING OUT OF TILE DRAINS?

Sarah de Bruin : "What's Coming out of Tile Drains" project manager; AgFirst Consultants Hawke's Bay



Installed in drain sampling equipment

Our changing climate and increased frequency of extreme rainfall events mean drainage systems under high value horticultural land are becoming more important to divert excess moisture from the soil and help waterlogged land become more productive.

The AgFirst led project 'What's Coming Out of Tile Drains?' is looking at discharge from tile drains under apple and kiwifruit orchards and cropping sites across the Heretaunga Plains in Hastings District.

The vegetable sector is supporting this project with funding from the Vegetable Research & Innovation Board, Hawke's Bay Vegetable Growers Association, Heinz Wattie's Ltd, and Bayley Produce. The interest in this project for the vegetable sector is to improve understanding of water flow behaviour, nutrient and sediment discharge and concentration. Tile drain systems can be influenced by several factors including source groundwater, crop and soil type, management practices and weather or climatic factors. Increasing this knowledge will lead to improved environmental outcomes.

This three-year project seeks to understand the specific timing, scale and source of the nutrients and sediment when it leaves a cropping or orchard system through tile drains and enters surface water. The point source discharge results from the tile drain are compared to the receiving water body, to understand the catchment context and any relationship between the two.

There are 16 horticultural farms involved in the project located within the Ngaruroro River, Tukituki and Karamū catchments in Hawke's Bay. Fortnightly grab samples are taken from the tile drain exit and corresponding receiving water body. The grab sample method allows for the collection of regular, point in time water quality and flow behaviour data. 'Event based' grab samples are also taken when a rainfall event greater than 15mm in 24 hours is recorded at a site.

Grower on-farm practices, local rainfall, soil moisture, soil nutrient content, and site-specific groundwater nutrient content are captured alongside the tile drainage discharge data, for information about the dynamic environment within which sub-surface drainage exists. Four of the 16 monitored sites are rotational cropping farms, which allows for discharge monitoring from a range of vegetable crop rotations planted during the three years. Crops have included maize, peas, watermelons, tomatoes, sweetcorn and pasture.

Flow meters and proportional samplers have also been installed at selected sites to provide complementary datasets. Some tile exits are regularly submerged by the receiving water body following rainfall events, thus are unable to be successfully grab sampled. The flow metering equipment will help us to better understand the flow behaviours when the tile exits are submerged, as well as the period and intensity of flow from different sites.

The Tile Drains project has just completed its second year of monitoring. The challenges due to Cyclone Gabrielle caused a range of different impacts across the project. This included some equipment damage, access difficulties due to silt and floodwaters, bank erosion and collapsed orchard canopy structures. However, several of the flow meters were able to capture tile flow over this extreme event, creating a valuable addition to the project dataset and allowing for some analysis of high intensity, high flow events.

So far project findings have illustrated the unique state of each tile, with flow behaviour, soil type and ground water influence all contributing to the complexity of discharge patterns and concentrations. The project has observed different types of flow behaviour from monitored tile exits, categorised as follows:

DRY
No or very few flow events recorded during sampling runs

EVENT
Only flows following a rainfall event of over 15mm

SEASONAL
Flows during spring, autumn and winter, but are summer dry

CONTINUOUS
Flow regularly year-round with continuous flow recorded

These findings have informed understanding on how tile drainage flow fluctuates throughout the seasons and during weather events, as well as the variability in flow between different drains at 16 locations. This suggests that any mitigation strategies will differ by tile flow behaviour and will need to be specific for each tile drain system.

“
There are 16 horticultural farms involved in the project located within the Ngaruroro River, Tukituki and Karamū catchments in Hawke’s Bay

The project is now in the final year of monitoring, where work will focus on understanding whether any discharge seen is related to nutrient loss, and how horticultural land management may influence these discharges.

Thank you to our project funders: Ministry for Primary Industries, New Zealand Apples and Pears Inc, Hawke’s Bay Regional Council, Zespri International Ltd, Vegetable Research and Innovation Board, Horticulture New Zealand, Hawke’s Bay Fruitgrowers Association, Hawke’s Bay Vegetable Growers Association, Heinz Wattie’s Ltd, and Bayley Produce. ●



The project studied cropping sites across the Heretaunga Plains in Hastings District



HIGH RISK

BROWN MARMORATED STINK BUG (BMSB)

It's taken over most of the world, but we can protect New Zealand from these stinky invaders. Brown marmorated stink bug (BMSB) is hard to control once established. Prevention is our best chance.

BMSB characteristics

- ❗ Size 14 - 17 mm (about the size of a 10 cent NZD piece).
- ❗ Brown shield-shaped shell with marbled pattern (adult BMSB).
- ❗ Shell, legs and antennae with light-coloured alternating banding.
- ❗ Produce a smell of dirty socks or coriander when agitated (= stink bug).
- ❗ BMSB looks very similar to New Zealand's brown shield bug (*Dictyotus caenosus*), brown soldier bug (*Cermatulus nasalis*), and Pittosporum shield bug (*Monteithiella humeralis*).



The brown marmorated stink bug (*Halyomorpha halys*) is a polyphagous sucking insect that feeds on a wide range of host plants including commercially important crops like pipfruit, stonefruit, citrus, berries, kiwifruit, sweet corn, grapes, asparagus, beans and corn. The bug pierces through the plant or fruit skin causing damage and general plant health decline, also with the potential to transmit various plant diseases. In Italy BMSB has led to an estimated 30 percent crop loss annually through declined productivity, fruit drop and unmarketable fruit damages.

Native to Asia, this pest quickly spread throughout North America, Europe and more recently South America. Prolific breeders and long-distance flyers, BMSB can spread quickly across large areas. The pest overwinters (hibernates) underneath debris or in natural crevices as well as vehicles, machinery, shipping containers, general household goods or passenger luggage.

What can you do?

1. **Keep an eye out for BMSB.** Early detection gives us the best chance to manage this unwanted stinky invader. Be vigilant checking your crops.
2. **Thoroughly inspect any recently imported machinery and vehicles or luggage** when returning from an overseas trip (particularly on-farm visits) for any signs of this bug. Keep windows closed when unpacking your suitcase and also look into crevices and underneath the lining of the case.
3. **If you spot it, catch it, snap a photo and report it!**
 - a. Use the Find-a-Pest app if you find anything suspicious: www.findapest.nz
 - b. Call the Ministry for Primary Industries' pest and disease hotline 0800 80 99 66 or use the online reporting form.

Extra resources

MPI BMSB flyer: www.mpi.govt.nz/dmsdocument/10784-Brown-marmorated-stink-bug-fact-sheet

www.mpi.govt.nz/biosecurity/pests-and-diseases-not-in-new-zealand/horticultural-pests-and-diseases-not-in-nz/brown-marmorated-stink-bug-threat-to-nz-and-identification/

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Life stages of the BMSB (www.researchgate.net/figure/Life-stages-of-BMSB-The-life-stages-of-BMSB-are-shown-starting-with-eggs-followed-by-1st_fig3_265175730)

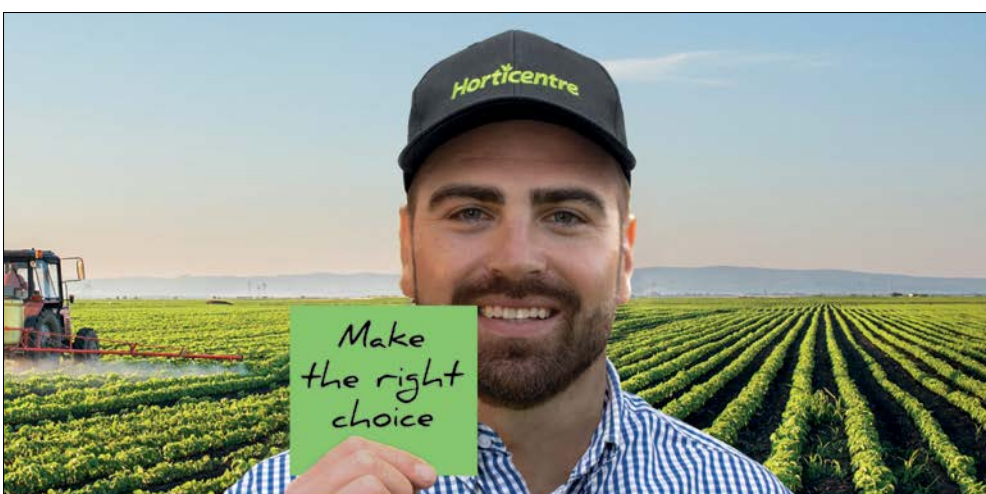
ARE WE READY FOR A FIGHT WITH BMSB?

The best chance for success we have is to keep the brown marmorated stink bug out of New Zealand. During the BMSB season (September to the end of April), Ministry for Primary Industries (MPI) border staff are extra vigilant to detect this pest, especially in passengers' luggage and other high-risk goods like imported vehicles and machinery. Biosecurity incursion investigators will respond to any notification through the MPI exotic pest and disease hotline (0800 80 99 66).

However, given that an incursion only requires small numbers of these invasive bugs, we need to be ready to fight back. MPI and likely affected industries formed the Brown Marmorated Stink Bug Council (BMSBC) under the Government Industry Agreement (GIA) for biosecurity readiness and response.

The search for more options continues, but we currently have a few tools in our toolbox:

- Options are being investigated for a range of traps to attract and kill BMSB.
- Insecticides that are most efficacious against BMSB fall into the broad-spectrum pyrethroid and neonicotinoid classes. Many of the chemicals that are used overseas to manage BMSB are either not available in New Zealand or are at risk of being banned for long-term use in the future. For example, bifenthrin, a synthetic pyrethroid, is currently being investigated by the Environmental Protection Authority (EPA) under their chemical reassessment process.
- Biological control agents (BCAs) are another option [that has been used overseas. The BMSB Council has sought and gained conditional approval from the EPA to use the parasitoid wasp *Trissolcus japonicus* (the samurai wasp) in the event of a BMSB incursion. This little wasp is one of the natural enemies of the BMSB, capable of reducing the BMSB population by killing its eggs.
- While exclusion netting has been shown offshore to be effective to keep BMSB out of an orchard or vegetable field, covering all productive land with nets cannot be the answer.



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58 CAMPAIGN
LAUNCH COMING

ADD **ONE** MORE



vegetable



A YEAR FOR DELIVERY AND HAVING YOUR SAY

Antony Heywood : Vegetables NZ general manager

There's a lot riding on 2024, for the new coalition government as well as for the commercial vegetable growing sector.

Coalition government parties all campaigned on reducing regulation as a way to support business, innovation and economic growth, and through economic growth, ensure that all New Zealanders have higher standards of living.

For our industry and others, this was music to our ears. However, it will take time to reduce regulation and ensure there are no unintended consequences. This process will also take more time than Members of Parliament, growers and other businesses would like. This in turn could result in disappointment, which the coalition government will need to manage.

Vegetable NZ's focus this year is on two main things:

1) Starting the process that will result in a National Environmental Standard for Commercial Vegetable Growing, and 2) launching the Add One More Vegetable campaign on 1 March, to encourage New Zealanders to eat more vegetables.

Getting a National Environmental Standard in place is a big piece of work. It will require us to show that we are good guardians - kaitiaki - of the environment, and that New Zealand needs a viable vegetable industry, for the sake of food security and New Zealanders' health and wellbeing. We will work with Horticulture New Zealand on the National Environmental Standard; however, we will also be seeking our own advice.

We are very excited by Add One More Vegetable because whichever way you look at it, the campaign makes sense: no matter how many or few vegetables you are eating, you can always add one more. Furthermore, the concept is supported by dietitians and government advisers. We are partnering with 5 + A Day to deliver the campaign, which we believe others will want to support once it is fully underway.

VEGETABLE NZ'S FOCUS THIS YEAR IS ON TWO MAIN THINGS



Starting the process that will result in a National Environmental Standard for Commercial Vegetable Growing



Launching the Add One More Vegetable campaign on 1 March, to encourage New Zealanders to eat more vegetables

Also this year, commercial vegetable growers will be asked to vote and continue to support the Commodity Levies that fund product groups like Vegetables NZ as well as Horticulture New Zealand. At Vegetables NZ, we feel we are delivering more tangible benefits to growers than we have in recent years, particularly in the areas of grower advice (for example, integrated pest management, our energy efficiency work, and the practical research and extension that we continue to support) and advocacy on behalf of growers. I feel we have also done a good job to help growers manage their way through Covid-19 and recent adverse weather events.

“

It will take time to reduce regulation and ensure there are no unintended consequences

But you will need to be the judge of all this, when you are asked to vote in mid-May to mid-June this year. The Vegetables NZ Board and I look forward to talking face-to-face with as many of you as possible, not just in the lead-up to voting but throughout the year.

Vegetables NZ is here to listen, analyse, plan and then act. We also hope that the coalition government takes a similar approach to its reform agenda. ●



SHARING KNOWHOW FROM NORTH WEST EUROPE

Dinah Cohen : TomatoesNZ business manager

Frank Florus is a consultant based in Belgium with extensive knowledge on growing greenhouse crops, especially tomatoes. TomatoesNZ brought Frank over, funded by a Ministry for Primary Industries (MPI) North Island Weather Events (NIWE) grant for growers to benefit from international experts.

During his short visit in early December, Frank addressed growers in two workshops - one hosted by Vegetables NZ focusing on capsicums, cucumbers and eggplant growers, and another hosted by TomatoesNZ focusing on tomatoes.

Broadly speaking, the tomatoes workshop covered energy and adapting to climate change, the biosecurity issues of ToBRFV (tomato brown rugose fruit virus), PepMV (pepino mosaic virus) and whitefly. All of these areas were to enable growers to learn from the experiences in North West Europe, where Frank does most of his consulting.

The presentation was almost three hours long and is available for viewing (link, password and rough index are all available at www.tomatoesnz.co.nz/hot-topics/frank-florus-workshop/).

SOME OF THE KEY TAKEAWAYS FROM THE WORKSHOP

- Due to climate change affecting everything from radiation levels to extremes in air temperature and rainfall, having a plan for all eventualities is crucial.
- Increases in fuel prices (both electricity and gas) were to some extent counteracted by the high price of tomatoes at market. One of the reasons for this was the lower than normal volumes of imported tomatoes from countries such as Spain and Italy, which were negatively affected by ToBRFV. But as all growers know, prices are volatile and the situation for future years might not be so favourable.
- LED (light emitting diode) lighting and screens are commonplace in North West European greenhouses. LED uses 30 percent less electricity than ordinary lighting but can increase yields, especially when grey, rainy days are prevalent. The right type of screens can provide shade when radiation is high and insulate when temperatures are low.
- Choose a plant variety that can cope well at lower temperatures.
- When energy prices are high there is a tendency to focus on the temperature in the greenhouse. Reducing the temperature gauge in the greenhouse will generally lead to a lower yield. Frank's top tip was to instead focus on the humidity levels, as this could help save fuel while improving yields, by growing stronger plants.
- Install a pyrometer or radiation meter to monitor the amount of radiation escaping from the roof.
- Carbon dioxide (CO₂), especially in the spring and autumn months when light levels might be lower, can help plants and is thought to increase production by at least 5kg/m². Carbon dioxide is thought to help with pollination, growing stronger trusses, better fruit sets and thicker fruit.
- Don't water more than five cycles per hour as this leads to lower oxygen levels in the growing slab. And only water until two hours after the peak position of the sun. So if the sun peaks at 1pm, don't water after 3pm.



The workshop with Frank Florus covered energy and adapting to climate change, the biosecurity issues of ToBRFV (tomato brown rugose fruit virus), PepMV (pepino mosaic virus) and whitefly

Hygiene is key for keeping viruses out. Everyone visiting your site, consultants, reps, mechanics all pose a risk and should attend only by appointment, wearing full PPE (personal protective equipment), only entering the greenhouse if necessary. All tools, crates and any reusable packing are all susceptible and should be cleaned thoroughly. Employees' work clothes should not leave the site. but should be washed onsite and other clothes worn to travel between home and work. Personal mobile phones should be banned from greenhouses. Trolleys should be cleaned after every row.

As more ToBRFV resistant plant varieties are coming on to the market, growers should be aware that there are different levels of resistance. High levels of resistance will mean that even if exposed to the virus, the plant will not get infected by it. Medium levels of resistance could mean that an exposed plant can become infected but never show any symptoms and spread the virus to the whole site.

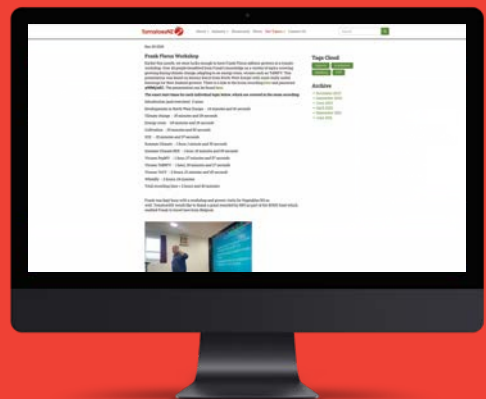
TomatoesNZ would like to thank Frank for coming to New Zealand and sharing his knowledge. The next event with an international expert is set for breakfast with Marc Groenewegen on Thursday 28 March, exact time and location to be confirmed. ●



Broadly speaking, the tomatoes workshop covered energy and adapting to climate change, the biosecurity issues of ToBRFV (tomato brown rugose fruit virus), PepMV (pepino mosaic virus) and whitefly

ToBRFV is similar to PSTVd (potato spindle tuber viroid) in terms of hygiene protocols, but it can survive in the soil matter for years and is difficult to eliminate. ToBRFV doesn't respond to heat treatment. (PepMV is thought to be killed at 65 degrees). The only way of ridding it from a greenhouse appears to be complete removal of all plant matter, thorough cleaning at least five times with four to six chlorine sprays and a further one to two Pherocon® sprays. This is corrosive to the greenhouse structure, but imperative. Identifying ToBRFV on a plant is not easy as some symptoms are common in other diseases. Marbling on the fruit is similar to PepMV, and brown spots are not so common.

View Frank's presentation here: www.tomatoesnz.co.nz/hot-topics/frank-florus-workshop/





POTATOES NZ TEAM READY FOR 2024

Sheree Phillips : Potatoes NZ Inc. communications & engagement officer



We shine a spotlight on the impactful team - where excellence is cultivated, and innovation takes root. From left to right: Sheree Phillips, engagement and communications officer; Tristan Hickman, NZ Potato Seed Scheme seed inspector; Paula Lleras, technical assistant and agronomist; Cyril Hickman, NZ Potato Seed Scheme manager and seed inspector; Kate Truffitt, chief executive; Bobby Hall, administration and finance officer; Dr Iain Kirkwood, technical manager

Collaborating closely with growers and industry partners, Potatoes New Zealand plays a pivotal role in shaping the future landscape of potatoes and nurturing a legacy that will resonate throughout New Zealand. As Potatoes NZ embarks on another promising year, our freshly assembled team stands poised for a season marked by growth, innovation and enhanced industry outcomes.

Navigating challenges and opportunities in New Zealand's potato industry

Being a vital player in the nation's agriculture industry, Potatoes NZ is significantly contributing to both domestic consumption and international markets. Managing 8400 hectares with 173 growers and generating an annual value of \$1 billion, the industry faces challenges such as climate change, rising costs and regulatory shifts.

Potatoes NZ remains dedicated to addressing these challenges and promoting better outcomes for members. Potatoes, as a nutritional powerhouse with a low environmental impact, contribute to overall health, emphasising the need for affordable vegetables in New Zealand.

Ensuring food security is a shared responsibility, requiring positive policy decisions to support growers and create a comprehensive contingency plan, such as a national food supply strategy. Ongoing challenges, including pest and disease management, demand accessible and sustainable solutions, and Potatoes NZ is strongly advocating for eased restrictions and viable alternatives.

“
The Potatoes New Zealand team leverages past successes and targets future priorities to enhance the New Zealand potato industry

Balancing environmental sustainability with efficient growing practices is crucial, with government initiatives like Fit For A Better World playing a role in creating a framework to minimise environmental impact. Streamlining regulations for water supply, land use and nutrient allocation is necessary to support the growth of healthy vegetables.

To sustain the industry, there is a need for fair prices for growers, emphasising affordability for both consumers and those working in the fields. Positive policy decisions, collaboration and a comprehensive understanding of the value chain are imperative for long term success.

Potatoes NZ invests in research and development for crop resilience and sustainable systems, embracing technology for a thriving future. Engaging local communities and educating consumers about potato nutrition is crucial, fostering a sense of connection and support for growers.

New Zealand’s potato industry faces challenges and opportunities. Collaboration among stakeholders, growers and policymakers is essential for overcoming challenges and ensuring continued success. The industry, through concerted efforts, can emerge stronger, resilient and better equipped to contribute to the nation’s wellbeing and economy. ●

Please contact the friendly team at Potatoes New Zealand, if you have any questions:

Phone: **0800 399 674**
 Email: **info@potatoesnz.co.nz**
 Website: **www.potatoesnz.co.nz**



WORLD POTATO CONGRESS 2024

The 12th World Potato Congress will be held in Adelaide, Australia 23 to 26 June, marking a pivotal moment for the global potato industry. Beyond the opportunity to showcase the excellence of the potato sector on the world stage, this congress aims to catapult potatoes into the spotlight as a compelling, nutritional and health-conscious food choice, both domestically and internationally.

For more information, please visit: tinyurl.com/WPC24

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PROSPECTS AND CHALLENGES: NEW ZEALAND ONION HARVEST AND EXPORT UPDATE

James Kuperus : Onions NZ Inc. chief executive



At the time of writing this article, we are just commencing the main onion harvest in Pukekohe and about to start lifting crops in the Hawke's Bay. The industry is poised for what could be a very promising export season.

However, challenges – particularly in export markets – are putting pressure on the industry. This is an update on the current state of the onion harvest as at mid-January, and an exploration of export market dynamics, highlighting key priorities for the industry.

ONION HARVEST OVERVIEW

As we start to get underway with the harvest around the country, by and large we have a much better storage crop than we did last year. Notably, the Hawke's Bay crops have returned to normal planted area, and the overall outlook for the harvest season is positive. In Pukekohe, the early season crop is looking healthy, however there is a bit more variability in the later crops. In the South Island, there have been some issues with damage caused by wind, but generally, there is a relatively healthy crop. Manawatū is also reporting a reasonable crop. Overall, the storage crop is looking much better than the previous couple of seasons.



EXPLORING THE CHINESE MARKET

A significant investment was made to explore the Chinese onion market, leading to a Memorandum of Understanding with the importers and exporters association in China (CFNA). However, gaining phytosanitary market access remains a priority. Now that both New Zealand and China have re-opened for business following the Covid-19 pandemic, the application made in 2018 for access to China for New Zealand onions needs renewed attention to unlock what could become a very significant market within five to ten years.



EXPORT MARKET DYNAMICS

While the overall outlook is optimistic, recent challenges in the Suez Canal have forced vessels to change course, leading to some delays in shipping times. Despite challenges, there is strong demand for New Zealand onions in both Europe and Asia, particularly Japan and Indonesia. Reports of compromised crops in Europe, especially in the United Kingdom, suggest a potential shortage, further increasing the demand for New Zealand onions. However, accessing these markets in a timely manner remains crucial for capitalising on these opportunities. With Egypt and India placing export bans until the end of March 2024, there are gaps emerging in export markets for New Zealand onions.



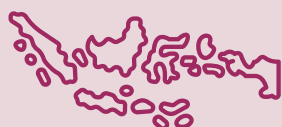
KEY PRIORITIES AND CHALLENGES

The industry has great prospects this year if we can obtain import permits for Indonesia, reverse the recent fumigation requirement, and if the European Union Free Trade Agreement is implemented in a timely manner. These priorities, if addressed promptly, will contribute to a prosperous year for the onion industry. Longer term, we need to gain phytosanitary market access to China, and regain access to the Philippines.



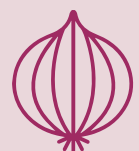
FOCUS ON INDONESIA

Indonesia is our single largest market, accounting for 20 percent of onion exports and contributing approximately \$35 to \$40 million to the economy. A sudden requirement to fumigate onions pre-shipment poses a significant challenge, with potential repercussions on export volumes. There have been collaborative efforts between the New Zealand and Indonesian governments to resolve this issue and find a pathway forward. Onions NZ also continues to invest with the Indonesian government in agricultural development projects with the aim to strengthen long term ties.



CONCLUSION

New Zealand's onion industry stands at a critical juncture, balancing the promise of an excellent export season with challenges arising from international events and market access barriers. The industry has been receiving fantastic support from New Zealand government officials and anticipates a productive and prosperous year ahead, provided swift action is taken on key priorities. ●





A LIGHTER
TOUCH

GROWERS DRIVE MOVE TO LIGHTER ENVIRONMENTAL CROP PROTECTION

Contributed



Integrated Pest Management workshops Vegetables NZ and A Lighter Touch hosted at the demonstration farm at Pukekohe late last year. Photo courtesy of Daniel Sutton

A programme supporting New Zealand growers to move to producing plant-based food with a lighter environmental touch is being driven by growers themselves, as much as by consumer demand.

The A Lighter Touch programme is a \$27-million seven-year programme co-funded by industry and the Ministry for Primary Industries. Its partners include arable, viticulture and 13 vegetable and fruit product groups, as well as three crop protection companies.

Now in its fourth year, its work focuses on finding the tools to help plant food producers move from agrichemical reliance towards agroecological crop protection – sustainable farming that works with nature.

A Lighter Touch programme director Livia Esterhazy says despite consumers being more sustainability conscious in

their purchasing, this does not translate into an appetite to pay a premium for food grown with less reliance on synthetic chemistry.

“Market intelligence shows very clearly that there is no longer a premium for ‘sustainably’ produced products. Rather, sustainable production is now a requirement for market access.

“This is demonstrated by the changing landscape for market access in terms of environmental considerations. In 2018, there were about 950 environmental measures in trade requirements. By 2022, this had increased to over 3700.”

As well as acknowledging changing consumer demands, the A Lighter Touch programme was born from growers and their industry recognising the necessity to change their crop protection practices for a number of reasons, including a need as a sector to be more environmentally conscious.



Plant biomasses are recorded as part of A Lighter Touch trial work. Photo courtesy of Plant & Food Research

“Many growers are wanting their farming practices to have a lighter environmental footprint. In addition, the partners in A Lighter Touch identified other factors including market access, the development of agrichemical resistance, and the potential regulatory removal of some crop protection tools from the grower’s toolkit, were also going to require a change in on-farm practices.

“It was a case of New Zealand growers themselves determining that to maintain their market access and the commercial viability of their businesses, a step change was required,” Livia says.

Ideally a move towards agroecological crop protection practices on farm would see New Zealand grown fruit, vegetables, grain and wine enjoying a market advantage for that reason. However, a number of consumer surveys conducted by government agencies, universities and crown research institutes have shown a wide disparity in attitudes to food purchasing across different markets.

For example, consumers in Australia, the United Kingdom and the United States base their sustainable food and beverage product choices on seasonality, locality and packaging. In Japan, consumers have similar priorities, but are also more alert to the use of chemicals and pesticides. By comparison in China, consumers are more likely to seek products that are organic certified and have minimal impact on pollution.

Cultural preferences can also impact consumer preferences as some prefer locally grown products, regardless of growing practices, over imported products.

In addition, while some consumers are more concerned about use of chemicals and pesticides in food production, there is low public understanding of different crop protection practices, such as what agroecological crop protection looks like and how it differs, for example, from a chemically reliant or an organic approach.

Consumer preferences will no doubt continue to evolve and change over time, as will knowledge and awareness of food production practices. This will leave New Zealand growers who of their own accord are already moving towards less reliance on synthetic chemistry, in a prime position to take advantage of market changes in this space. These changes may well include market access requirements driven by environmental regulations, as well as those prompted by consumer demand.

What is emphasised is that New Zealand growers are looking to be at the forefront of crop protection developments for their sectors, rather than being reactionary. The industry’s partnership and co-investment with government in the A Lighter Touch programme is a key element in making that happen. ●



TEACHER PROFESSIONAL DEVELOPMENT DAY A TREMENDOUS SUCCESS

Andrew Bristol : Vegetables NZ stakeholder engagement and communications manager



The teachers get to see a pea processor up close

More than 40 teachers from as far afield as Auckland got together in Christchurch in November to learn more about the vegetable industry and how to excite their students about vegetables.

“This has been the best professional development ever,” said one participant. “What we covered today was relevant, vital and on point. It’s re-ignited my passion for vegetables.”

Another participant said high-calibre professional development opportunities are rare and there needs to be lots more of them, run across the country on an annual basis. This is something that Vegetables NZ will be taking up with the new government, once it is formed. We believe

that the Ministry of Education and Ministry of Health should be doing more to promote the eating of fresh, healthy vegetables among school students. The Ministry of Education also needs to be doing more to promote horticulture as a diverse and rewarding career.

But back to the day itself...

The professional development day was oversubscribed with enthusiastic teachers keen to attend, so everyone was accommodated by dividing into two groups and delivering sessions twice.

The day comprised an introductory chat, a trip to Wattie’s vegetable processing plant in Hornby, presentations about ways to reduce food waste, a regulatory update on nutrition and health claims, and a vegetable cooking masterclass.



Wattie's pea expert Greg Noller explains the growing and harvesting process

The Wattie's plant was soon to start processing locally grown peas. In Canterbury, peas are planted from June to December and the plant processes them from November to March, making it the longest harvest period in the world.

The teachers learned about the processing process and how quality is maintained. Also more about pea growing, and how proud Wattie's is of its growers, who employ "some of the best growing practices in the world". Lastly, one of Wattie's senior food technologists made a plug for encouraging students to consider careers in food technology, saying it offers interesting and well-paid work in many different areas of food processing and quality control.

In terms of food waste, bread is the most wasted product, but fruit and vegetables are up there too. In a presentation by Sarah Pritchett of Love Food Hate Waste, teachers were introduced to ways to limit waste and use up leftovers. Sara Collie, health and education advisor with vegetables.co.nz, who organised and ran the day, remarked on how food costs and minimising waste are now major concerns in public health, whereas in previous years concern has focused largely on obesity.



Chef Jen Pomeroy (of themodernmess.co.nz) demonstrates several 'vegetable forward' recipes

Carolyn Lister a senior scientist with Plant & Food Research, summarised the regulation of health claims and used case studies to demonstrate how they can determine the authenticity of foods. She also highlighted a recent case where a drink manufacturer has been advised to remove the health claims on their product due to their inability to put forward robust evidence.

To round out the day, in a masterclass led by local chef Jen Pomeroy the teachers put their aprons on and prepared a set of cost effective, 'vegetable forward' recipes designed to appeal to students and their families. Like the feedback on the whole day, the teachers reported they got a lot of helpful hints from the demonstration, and were generally re-enthused about vegetable preparation and cooking.

The professional development day was run by vegetables.co.nz in partnership with the Heart Foundation as part of their Food Skills For Life programme in schools. The programme is designed to encourage an increase in vegetable consumption through skills development and knowledge. (Vegetables.co.nz is funded by Vegetables NZ, Process Vegetables NZ and Onions NZ). ●



CAN YOU ADD ONE MORE VEGETABLE TO YOUR DAY?

Andrew Bristol : Vegetables NZ stakeholder engagement and communications manager

ADD ONE MORE



vegetable

An exciting new initiative will encourage all Kiwis to add one more vegetable to their day, every day.

Vegetables.co.nz and the 5+ A Day Charitable

Trust are partnering in a brand-new initiative for launch on 1 March. The campaign – Add One More Vegetable – simplifies the message around increasing vegetable consumption and is deliberately positive and easy to achieve.

“In New Zealand, most people don’t eat the recommended number of serves of vegetables every day,” says Julie North, health and education manager for vegetables.co.nz and registered nutritionist.

“The reasons for not achieving recommendations are varied, including cost, perceived value, lack of time to prepare, lack of skills, disinterest or dislike, and concern about waste.

“Vegetables hold an enviable position within food guidelines as government recommendations encourage people to eat as many as they can. We want to own that position and create a simple, fun message around vegetables. Add One More Vegetable is relevant to everyone whether they currently eat many vegetables or none at all.”

John Murphy, Vegetables NZ chair, says the Add One More Vegetable initiative is a well-timed addition to vegetables.co.nz’s promotion of vegetables.

“Every expert says that New Zealanders will enjoy better health if they eat more vegetables. However, vegetable consumption in New Zealand remains low with only 10.4 percent of adults eating the recommended amounts.

“This initiative will encourage everyone to add one more, no matter what their level of vegetable intake is, because adding one more vegetable is an achievable goal for all Kiwis who want a healthier life – it will make a real difference.

“At the same time, Vegetables NZ will step up its advocacy to ensure that the new coalition government delivers on its commitment to help the vegetable industry expand and return to prosperity. We believe the best way to achieve this aim is to put in place a National Environmental Standard for Commercial Vegetable Production.”

Paula Dudley, general manager of the 5+ A Day Charitable Trust says the initiative will highlight what’s in season and suggest easy ways to increase consumption, so more people can enjoy the health benefits of eating plenty of fresh vegetables. “We are looking forward to bringing this initiative to life as part of our communications strategy. It’s a fresh new approach and remains relevant over time. Every person can relate the message to themselves and build on it.”

It is hoped the industry will come on board and support the message where they can. Bevan Roach, general manager of sales and marketing for LeaderBrand is positive about the new initiative.

“We’re happy to support any messaging that helps promote fresh vegetables to Kiwis. Getting consumers back into the fresh aisle is important for the whole industry.

“After a tough year and with lots of volume in the market, we can all help promote this initiative’s great messaging. The fact is we can all easily add one more vegetable to a salad or pasta dish,” he says. ●

For more information or if you are keen to be involved, please contact:

Andrew Bristol, Vegetables NZ stakeholder engagement and communications manager:
andrew.bristol@freshvegetables.co.nz
or Paula Dudley: **paula@5aday.co.nz**



A NEW MOLECULE FOR APHID AND TPP CONTROL IN POTATOES

Mainman® is Nufarm's novel insecticide for aphids and tomato-potato psyllid (TPP) in potato crops. Mainman contains the active ingredient flonicamid, discovered and developed by Ishihara Sangyo Kaisha (ISK) of Japan.

When it launched in 2020 it was a brand-new molecule, with a unique mode of action, and it has an excellent fit with integrated pest management (IPM) programmes. "A lot of growers were aware of it before we launched because of its use overseas, and we expected there would be quite a lot of demand for it as soon as it became available. Even so, it's taken off," says Joe Heng, Nufarm territory manager.

“
A key attribute is its ability to stop aphids and TPP feeding within an hour



Mainman's mode of action is different from other insecticides such as neonicotinoids, and it is the only insecticide in the IRAC (Insecticide Resistance Action Committee) Group 29 class (Chordotonal organ nicotinamidase inhibitors).

A key attribute is its ability to stop aphids and TPP feeding within an hour, working through both contact and ingestion. Mortality occurs within two to five days, but the fact that they are not feeding so soon after application really helps limit crop damage and disease transmission.

Formulated as a water dispersible granule (WG), Mainman is rainfast within three to four hours, and has residual activity for two to three weeks. Translaminar and systemic movement within the plant allow the active ingredient to reach new growth as well as the underside of leaves, which is essential for controlling both TPP and aphids.

Critically, Mainman has no reported cross-resistance with other insecticides, and poses low hazard to beneficial insects, so as well as offering a valuable new rotation



option for insecticide resistance management, it is also ideal for IPM programmes. Its toxicity level for mammals is low, and the new product is registered for both ground and aerial application.

Both aphids and TPP pose potentially costly losses to New Zealand potato growers. Several species of aphid are vectors of potato leafroll virus (PLRV) and other viral diseases. PLRV infected plants are stunted and have upward rolling of the leaves. Diseased plants produce fewer and smaller tubers.

TPP in the meantime causes stunting and yellowing of potato foliage and transmits a bacterium which causes the tuber disease known as zebra chip. Infected plants again produce small tubers which are unsuitable for processing as they exhibit dark stripes when fried.

"TPP has had a devastating effect on commercial crop growers since it was first detected here in 2006, so the more tools they have at their disposal to help manage this pest, the better," Joe says.

Field trials with Mainman in New Zealand have shown exceptional control of aphids and good control of TPP, comparable to current commercial standards. The recommended application rate is the same for both pests (160 g per ha), with no more than two applications per crop, and a withholding period of seven days. ●

For more detail talk to your local Nufarm territory manager or visit us at nufarm.co.nz/mainman



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THE GROCERY CODE OF CONDUCT COMES INTO FORCE

Emily Levenson : HortNZ policy advisor



Unfair trade under the supermarket duopoly has seen stifled innovation and competition in New Zealand's grocery sector, but new legislation is making a change. The Grocery Industry Competition Act 2023 came into force in September 2023 to rein in unfair trade practices. The Act and its accompanying Grocery Supply Code describe the rights and responsibilities of grocery suppliers, wholesalers and regulated supermarkets – for now, Foodstuffs and Woolworths. This means that growers who supply directly to supermarkets have a whole new suite of protections.

Register for the webinar at:
tinyurl.com/grocery-webinar

To find out more, visit:
comcom.govt.nz/regulated-industries/grocery
 or www.hortnz.co.nz/about-us/submissions

or email:
emily.levenson@hortnz.co.nz



How does this help growers?

The Code contains rules that retailers need to follow, with a mandate to deal with suppliers in good faith. For example, supermarkets can't require suppliers to use a particular transport or logistics service, pay just to be stocked or listed, or fund promotions. In addition, retailers can only delist products for genuine commercial reasons, and there is a strict process they have to go through to do so. Supermarkets also can't threaten suppliers with ending their supply agreement without reasonable grounds. There are even special protections just for fresh produce suppliers. If there is evidence of unfair trade practices, the supermarkets can face financial penalties of up to \$5 million.



HOW WAS HORTNZ INVOLVED IN THIS POLICY?

Horticulture New Zealand has made four submissions on various stages of this policy since August 2022. Our points about not requiring growers to use supermarket logistics companies, rules recognising the perishable nature of fresh produce, and prohibiting set-offs were adopted, amongst others. Most recently, we submitted on the proposed Grocery Industry Dispute Resolution Scheme, which lays out the process of how suppliers can seek mediation or adjudication to resolve disputes with retailers. Our key points were that the language of the rules should be simple enough for anyone to understand even without a lawyer, and that confidentiality in the process is key to protect commercially sensitive information.



WHERE CAN I LEARN MORE ABOUT MY RIGHTS?

HortNZ will also be hosting a webinar on Wednesday 14 February, 12pm to inform growers about their rights as suppliers under the new Grocery Code of Conduct. Commerce Commission Grocery Team staff will present and be available to answer your anonymous questions.



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